

SEQUENCE LISTING

<110> OMURA, SATOSHI
IKEDA, HARUO
OGASAWARA, YUMIKA

<120> STRAIN BELONGING TO THE GENUS STREPTOMYCES AND BEING
CAPABLE OF PRODUCING NEMADICTIN AND PROCESS FOR
PRODUCING NEMADICTIN USING THE STRAIN

<130> 8012-1318

<140> 10/535,263
<141> 2005-05-17

<150> PCT/JP03/07407
<151> 2003-06-11

<160> 6

<170> PatentIn Ver. 3.3

<210> 1
<211> 23
<212> DNA
<213> Streptomyces avermitilis

<400> 1
gtgctgcaag gcgatatagt tgg

23

<210> 2
<211> 22
<212> DNA
<213> Streptomyces avermitilis

<400> 2
tccggctcgt atgttgtgtg ga

22

<210> 3
<211> 39912
<212> DNA
<213> Streptomyces avermitilis

<400> 3
gaattcttcg gcatcagccc ccgcgaagcc ctcgcacatgg acccccagca acgactcctc 60
ctcgaaaccg cctggaaac catcgAACAC gccggcatca acccccacac cctccacggc 120
accccccacccg gagttttcgc cgaaatcaac gctcaagacc acggccgcga tatccgc当地 180
agccgtatg tggagaccat cgagggtctac gccctgaccg gcagttcggg aagtgtggcg 240
tccggccggg tggcctacac gctcggcgtc gaaggccccg cgggtgtcggt ggatacggcg 300
tggtcgtcgt cgttgggtgc gttgcattgg gccggcgcagg cgttgcgtgc ggttgagtgt 360
tcgatggcgc ttggggggg tggacgggtg atgtcgtctc cgggtacgtt tggagttc 420
tcacgtcagc ggggtctggc cgccggacggg cgggtcaagg cctattcggc ggctgctgac 480
ggtaccggct gggccgaggg tggggatg ctgctggatg agcggctctc cgacgccccgt 540
cgcaacggtc accgtgtcct gggcggtg cgtggcagtg cggtaacca ggacggcg 600
agcaacggtc tgaccggccc caacggccc tccagcagc gtgtcatccg tcaggccctg 660
gccaatgcgg gactgacccc ggccgatgtc gacgcagtgg agggccacgg caccgggacc 720

actctgggg acccgatcga ggcccaggca ctcctggccg cctacggaca acaccgcccc 780
 caccaccgcc ccttgtggct gggatccctc aaatccaaca tcgggcacgc acaggccgccc 840
 gcgggcgtgg gcggagtcat caagatggtg atggccctgc gcaacgggct gctgccacag 900
 accctccacg tggacgagcc caccggccag gtgcactggt ccacaggcgc agtacaactc 960
 ctgacacaac cggtgcctg gcccggcgc acggccggcc ggccacgc ccgcggcgtg 1020
 tcatcattcg gcgtcagcgg caccacgc cacatcatcc tcgaagaagc acccactccc 1080
 caggacagcg ataccgacga cgaaccgcct gcaacgcac cagccctgc ccatccctc 1140
 cctttcccg tgcgggtgc ggcgaggctt gagggccgggt tgccggcga ggcacaggcg 1200
 ttgcggcaagt acgtggcagg cccggcgc atgtcaccctg cgcacattgg tgccggctg 1260
 gcccggcggcc gggcgtaact ggaacaccgc ggcgcgtatcc tgccggcggaa cgcggaggaa 1320
 ctggcgcagg cactgacagc cttggcagcc ggcaaccccc accccacat caccacaggc 1380
 cacacccggg gcggtgaccg cggccggcgtc gtcttcgtct tccccggaca gggcgccag 1440
 tggggccggga tgggcctgac cctgctcacc tcctcaccctg tgttcggcga acacatcgac 1500
 gcatgcgaga aagccctcac cccctgggtg ccctggtccc tgaccgacat cctgcaccgc 1560
 gaccccgacg accccgcatg gcaacaagcc gacgtggtcc agcccggtct cttcagcata 1620
 atggtctccc tggccgcctt gtggcgctcc tacggcatcg aacccgacgc ggtcctcgcc 1680
 cactcccagg gagaatcgcc cgccggccac atctgcggcg cactcagcct gaaagacgccc 1740
 gccaaaaccg ttgcactgcg cagccgcgc ctggccggcc tacgaggccg gggcgccatg 1800
 gcctcactgc ccctggccgc ccaggacgtg cagcagctca ttccgcacg gtgggaagg 1860
 cagttgtggg tggcagccct caacggcccc cactccacca cgcgtcccg cgcacaccaag 1920
 gcgggtggatg aggtgctggc gcactgcacc gacaccggcc tacggccaa acgcattcccc 1980
 gtcgactacg cttcccaactg ccccccacgtc caacccctcc acgacgaaact cctgcaccc 2040
 ctgggagaca tcacccccc gccgtccacc gtggcgttct tctccaccgt ggaaggcacc 2100
 tggctggaca ccacaacccct ggacggccgc tactggtacc gcaacctcca ccagccggtc 2160
 cgcttcagcc acggccatcca gaccctgacc gacgacggac accgcgcctt catcgaaatc 2220
 agcccccacc ccaccctcg tcccgccatc gaagacacca cggaaaaacac caccgaaaaac 2280
 atcaccgcga cccggcggct ccggccggc gacaacgcaca cccaccgcctt cctcaccgc 2340
 ctcggccaca cccacaccac cggcatcgcc acacccacca cttggcaccac ccactacacc 2400
 caaaccacc cccaccccaa ccccccacacc cacttcgacc tgcccaccta ccccttccaa 2460
 caccagcaact actggctcca accacccacc acaacaaccg acctcaccac caccggcctc 2520
 acccccccacc accacccctt cctcaccgc acactcacc tcgcccacca caacacacaa 2580
 ctactcaccg gccgccttc cctacgcacc caccctggc tcaccgacca caccgtcgcc 2640
 ggcatggtcc tctggccggg caccgcgtc ctgcgaactcg ccctccaaggc cgccgaacgg 2700
 gtggactgcc ctgggggtgg ggaactgacc ctgcacgcac cgttggat cccgcacacc 2760
 gaggacgtga cgttgcaggc caccgttcgg gcaagccgtg agagtggca tcgcccctc 2820
 gcgatccact cgtactccgg caccgcgtcg tggcggacc gggagttggac cgtcacgc 2880
 acgggcctcc tcacacacca cgccgacacc gatcaccgtg ccgacacgcac cacggacgcg 2940
 tgcctggcg ggagctggcc cccggccggc ggcgcggccca tcgaactggg cgacgtctac 3000
 ggtcgatgg cggcgactc ggacatcgcc tacggccgg tcttccaggg gctgcacgc 3060
 gcctggaggt tcggcgcacga tgcctggcc gaggtgcgtc tgccggaaaga ggctctgc 3120
 gatgctccgg cggggccctt cgggtttcac cgggccttgc tcgacgcggc cctgcacgc 3180
 acggcgctca ccccccagaa cggggacggc tcgacggaga acgtcgccca ggagagcatg 3240
 cctgaccgcg cagccacca ggccgcactg ccgttcagct ggagcggcgt gtccctgcac 3300
 acggcgccgca gttccgtgtt ggcgcgtacgg ctgtcgcgc gtcgcacgc cgtaatgcc 3360
 gtggccctca cccggccgcg cgaggacggc cggccgggtgg tgacgatcga gtcgcctcg 3420
 ctgcggccgg tgcctaccga ggagctgcgc ggcggccggc atcgatcgcc cgacgcacgc 3480
 tgcgtcttcc gactggactg gtttcgtt ccagtgcggc ccaacgcggcc ttccgcacc 3540
 gcgacccggc cttggggcggt catcgccgc ggcctccccc acctgcggcc cctgacggag 3600
 cacgagacacg tgaccgcgtt tgacgacggc gggacccctgc ttctggctt ggaccgcgg 3660
 gtcggccgcg cccgggtgtt gtcgttaggt ggtgtcgatc acacggaaac cggggagat 3720
 tccggcaag ccccccgggg ggcggggacc gaggcctgcg aggccccggc ggacgtcg 3780
 cacgtggcg tcgtgcacac ggctggccgt caccggcgtg ccgcgcacat gttggccagg 3840
 ctccaggccct ggctggccga cgacgcctc gcacacaccc ggcgcgtcg cctgacgtgc 3900
 ggcgcggcgtcg cccgcgcctc cgccgacgc ggcacggacc tgccggggc cggccgtgtgg 3960
 gggctggtgc gttccggccgca gtccgagcacc cgggacccgc tcacgcgtct ggacttcgag 4020
 cggggacacag aggccggagcc cggtcagct ggcacggcgc tgaactgcgg ggagcggcag 4080
 ctggccgtcc gccccggagg gtcgttacgc ccacggctgg tgccgcgc acgtgtcgcc 4140
 gacccgtac cccggcgtacc cggccgtggcc gtaccgtcag cgggtcgcgc agccgtaccg 4200

gcagcggggtc ctttccttcc gggcgaaacg gtgtatca ccggcgaaac cggtgtcctg 4260
 ggccggctcg tggccggca tctggtgag gcgcacggcg tacggcatct gttgtggcg 4320
 ggtcgccgacg gaccggacgc cgagggtgcg ccggagttgc gggcgagct cggtgggctc 4380
 ggcgcgacgg tggaggtcg tgcctgcgac gcggcggacc ggcagcagct ggccgacactg 4440
 ctgacacgga tccccacga tcggccgctg accgggtgcg tgcacagtgc gggcattctg 4500
 gacgacggcg tgatcacgtc gctgtcgccg gagcggctcg gggcgtctt cccggccaag 4560
 gcggacgctg cgctgttctc cgacgagct acgcgcgggg cagagctgc ggcttcgtc 4620
 atgttctctt cccgtcgcc ggtgtcgcc tcggccgggc agggcaacta cgccgccc 4680
 aacggccgtcc tgcacttctt tgctcatcg cgcggccgc aggggctgcc cgccgtctct 4740
 ctgcctcggt gcctgtggga agagggcaca gggatgacgg gccacctcgat cgtcgacgac 4800
 catcgccgga tcagccgcgc gggatgccc cccgtccga ctgcggaggc tctggcgtc 4860
 ttgcacggcg ctttggccga cggcgagccg ttctgtatgc cggctcgct cgcacccac 4920
 gccgtacggt ctgtgtccgc gtccgcacccg gtgcggccgc tgctgcaagg tctgtttcag 4980
 ctgcctcggt cccgtcgcc cgcggccgc cccggccatg gggccccggc ggcggacgag 5040
 gcggcggcct ggctgtggcg tctggccggc cagagtgcgc gtgagcgcag gcaggcgctg 5100
 ctgcgcctgg tgcgtcgca tgctcgccg gtgtctcgcc atagcggtgc cgacggaaatc 5160
 gacgcacatcg gggcgttccg cgagctgggg ttgcactcg tcacggcggt cgagctgc 5220
 aaccgtctca cggccgcgac gggctgcgg ctgcgggcca cgctggccctt cgatttcccg 5280
 accccggcag cgctggccga gcacttgggc gagcgtctgc ttcccgacca ggaggccacg 5340
 ggcgagcaag cccgcgatca gctctccggc ggcagcgagg aggacgtacg cagcctctg 5400
 acgtccattc cgatcgccgac gtcggggac gccccggctcc tcggggccct gctcacgc 5460
 gcggacacgg gccgcggcgc ctgcggccgc gccgcaggc cggaggacgc gccgcctcc 5520
 ggccaggaca caccggctcc cgtctcgatc gacgagatgg acatcgacga cctgtatggat 5580
 ctggcgcacg ggcacatggc cgcacccgc cgtgagccgc cgcacgcaga ggactcgctg 5640
 tcatacggaa accggacaca ccacacacac gaagggtgaga cagcgtaaac ccatccgagc 5700
 cgctcgccct gcccaacggaa cgtgttagtag acacccgacc gtcccgatgcc acgctctcac 5760
 ccgaggccgg cctgaacagg tcaggagcgc tgcccccgtga actgctgtcg ttgcgggtgg 5820
 tggtgtggc cggggctcgcc ctgtctttc tggccctcgca ggcgtacgtg ttcaaggccct 5880
 gggcgccga cgggtggctac cggctgtac agacggcggg ccagggtcag ggccggcagca 5940
 aggatacggg gactaccgtat gtgggtctatc cctgtatttc cgtcgatcg atcaccggcc 6000
 cggcggcggt gctttccgg aggtgcgtgc tcaacacgacg gctgtcttc gacgccttc 6060
 tcttcctcggt gctgtcttc cgcagctggc agagcccgct catgaactgg ttccattccg 6120
 ttctcgatc caacacgatc gtgtggggcg cgggtgggtt ctgggtccg tatgtgccc 6180
 gctggcagggg ggccggcccg ggtgcggagg cggaaatgcc gctggcgatc gcctccgtct 6240
 gcatgtcgcc tctgtatcgatc accgtgtgtc gcaacggc actgggggtgg atcaaggccc 6300
 gccggccggc atggcggacc tggcggttgc ttctggccgt gttttccatc ggcacatcg 6360
 tcggtctgtc cgacccgtc cgcgtccgc cggggatcag cgtatggcc agagcgctgc 6420
 ccgaggtgac cttgtggagt ggcgagtttcc accagttccc cgtgtatcag ggggtcggtt 6480
 cccggcttggt ctgtgtcgatc ctgggcgtgc tgcgttttcc cgcgcacgaa cgcgtatgagt 6540
 cgtgggtggc acggggagcc tggcggttgc cgcacccggc agcgaactgg ggcgtttcc 6600
 tcggcgtgtt cgggtgggtt aatggcgatc tggccctcta caccttttc catatccctcc 6660
 tggccctcggt cgggtggacag cgcggccgacc aactgcccga ctcccttcaa ggcggcccg 6720
 cttactgagt tcaggcggcagg tcggaggaga cggagaaggg gaggcgaccg gagttccgg 6780
 cacctccctt ttgtgtatgg gttggacggg atcacgttcc catggccgc ggcctccca 6840
 gacgcaccac actccgtcgatc tcaacacgatc tggcggttgc gttggggaaacg acgtgagtgg 6900
 ctttcgtctt gggccggacc tcgtcgccgc gaaaggcgatc tagtcggccag tggggaggcga 6960
 cgaccggcgcac cgtaaacggcc gtcgtcgatc gggcgaaatggt gtcggccatgc catttgcgtt 7020
 tgccgagcgc gaaaggccacc caccggccctt tgggacttcc cggcgatcgatcc cccctgggttt 7080
 cccagggccgc ggggtcgaga cgttcgggtt cggggatcca acgtgggtcg cgtggatgg 7140
 cgtacgctgtc gtacatcgacc tccacatcg cggcgaggcgtc gtgaccggcc agtcgtacgg 7200
 gccgcaccgtt cccggccggac cccacccaggc cggggatattt ggcgatcgcc tctttcacga 7260
 gtttctgtgtt gtacggcgcgc cgcggggatgtt cctcgatcgatc gggcaacccgc ccccccaggaa 7320
 cctgtcgatc ctctcgatcgac agccgacttc cgtatcgatc gttctgtccg agtcgtggaa 7380
 aaatccacgc cgtaatggca gtcggccgc cgtatcccgcc caccgcgatt cccatgaccc 7440
 cgtcatggac ctctgtgtcc gtcgtcgatc caccgtcgcc gtcggccatgc cgcacatcg 7500
 tcgagagcag gtacccgtgg tcggccat cggcgatc cgcgtatcgatc gctcccccggaa 7560
 tcgttgcgtc cgtacggccc acggaccgtt cggccgggtt gggaaaacc tcgtaaagg 7620
 tggggccgag agcaactcagc cggggccaccc tcaaatgtc gtttccgggtt ttcccgacgc 7680

cccgcctcgcc cttcgcggccc aggtcggaga agaacagcgt cttcgtgatc atggcaagcg 7740
 acagggtcgca ggccggctgc tcaacgtcca ccacacctccc agcgctccag gaatcagcgg 7800
 tctcctcgcc ggcggccgaa atggtggcga catagctctc gaggcgctgg cgttggaaacc 7860
 ctggctgcat ccgcctccgc tgtcggcgt gctctcccc cgataacggct acgaggatgg 7920
 ggccgatgaa gcggctcgcg ccctgtgcgc ctttgctccg ggtgaaatcg cccgatccgg 7980
 aggagaccag catggtccgc accagggtccg ggtgcgtggc gaggtaggcg gtttcggcc 8040
 cgaggcggag cttgagcagg tctccgtat ctgctgcgga gcgaagaac tcacggggct 8100
 gcccgcataa cggcggcaca tggccgacga cggccaggc gcccggcgcc tcgggaatgc 8160
 tgctcgctcg ctgggacatc acgagtgtct ctttgccggg tgaagggggg tggctgggag 8220
 gggaaacgaca gtgacgagtg aagggggagg ttgtgggggtt ggcgtccggcc cgggggttag 8280
 cgtggacatg ggagtggag ggagtgaagt gagctcgag tggttctgg gtttcattga 8340
 gattcaaatc cgacttcct gtcgatgaga gcaacatct cctcgatcgat tgctctcg 8400
 aggtcggggg cgggtcgct gccgttcaac ttctggcga ggaatcgag tggggaggc 8460
 agcccgctgc gcgcggccgtc gtcagcggg gcagcggagg atgtgttggg ggagagact 8520
 accgcctcca gcccgtcgag ctccgagagc akgagggca gcccggggg tgcgttgc 8580
 gcttcgggct cggccgcccgt ggtgagttcc ttgctgacga gttgtgttgg gagggttgg 8640
 gtgagggtgg tgggttggg gtgggtcgaag gcgagggtgg tggggaggcg gagtccgg 8700
 gtgtgggaga gccgggttgcg tagttcgacg ggggtgaggg agtcgaagcc gaggtcgg 8760
 aacgcgcggt cgggggggat ggtgtcgggg gtgggtgtggc ccaggacggg ggcgtatgtt 8820
 gagcggacca gggcgaggag ggtgggtgtc tttgttcgt gtgtctggcc gcccagccgg 8880
 ccgtgcagct gggcccggtt gtccgcacca ccggtagtgg tggtgccggg ggtgcggcgg 8940
 cgggtggcgg gcaggagggtc ctgcagcagg gggccaggg gccccgggg acccaggct 9000
 gcggggcagca ggaccggccg gtccagagcc agggccgat cgaagagggc cagtgcgtcc 9060
 ggggtcgaca tggatgcag accggaacgg atgatgcgcc ggtggtcgg gccggccaga 9120
 tgcccgtca tcccgctggc ctetttccac agccccacg ccagcgcacac ccccgccaga 9180
 cccgcggccc gccggggta gatcccccg gccgaggaga acagcacgaa cggcgcacacg 9240
 ccctgccccg cggaccccgat atccagaaa agagcggcat ccaccccccgc cggcgcacacc 9300
 tccataaaaa cgcgtcagctc gagagaggcg atcgtcgcat cgtccagcac accagccgca 9360
 gtgcccagcc gtcggggcgt acacccggca ggaacacccct ccagcagccg gaccaccc 9420
 tgcacgcac ccgtcagcgg cgcaccaatc cgcacccccc ccccccaacgc gcccagcc 9480
 cggccgtccc ccacatcaca cggagcatcc ggaccacccg ggtcaccacaa caacagatcc 9540
 gcccgcggaaac cctccgcacc cgcacccac acacaccaggc cagatggcgc gccaccggcc 9600
 cccgcacca acacccggact caccggacac caccggcaaca cctcccgacc cgtatacatca 9660
 accggcgact caagtcgtt caggcgtcgc gccagcaccc gtcaccacg caccgccaac 9720
 tgcggctcac cacacgcccac caccgcagcc acaccccccac catccagacc agacccata 9780
 cccgcctcgt tgccggcatc gcggtcagcg ccgctgtcga ggtcggtgtc caggtcgagg 9900
 aggacaaaacc ggtccggatg ctcagctgc gccgaccgcgca ccagcccccac cccgcggcga 9960
 cccaccacat ccacccggcc atccacccggg ccgtccctccg ggcggccac caccgcaccc 10020
 cgggtcacca ccaccagccg cgaaccccgca aaccgcgtcca gccccagcca cccctgcacc 10080
 acacccaaaca ccccaaccaac aacctcaccac acaccacccgc caccaccgc gccatcg 10140
 cccgcacccg ggcaccgcac caccacccac cccggcacaac catccctccctc agccgc 10200
 ccaacggagg ctgcggcacc atccagcacc accaccgtat ccccgccca caccagtaca 10260
 tctgaggcga cctcaacccca cttcatgtcg aagagctcg cgcgtctgtac ggcgcgctcg 10320
 gcagctcgca attcgtccgc cggcaacccgg cgcaccgcac acgcctcgac ggacgc 10380
 ggcgtacccgg tgtcatccgt gaccagcacg gaaactgcgg cgtggccgt gtcggatcg 10440
 gccggcgaga gtgcacgcgca acacgcacgc gcatggcgg cgtgcacgcgt cacaccgg 10500
 aaggagaacg gtacggatcc cgggtcgacg cgcacaaaggc cgcgtcg 10560
 aaggcagcat ccagcagtgc tgggtcgagg ttgtacgcgg atgcctcgcc gtcgcaccc 10620
 tctggaaaggc gaacctcgcc aaacaccccg tctcccgac gccaggcgcg agtcagcccc 10680
 cggaaatcgcc ggcacatgcgaa acaccccgat gctcccgatgc gccatccaa gtcgc 10740
 tcctcatcag cacagcgaac ggtcttggg cccagaacccg cgcgtccgt gtcgcaccc 10800
 cggcctgtct caatgcgcga ggcgttggc gacttagatcg tcagtgaacg agtgcg 10860
 ggagccgctg cggggggcggtt ctcgctcgc gacttagatcg tcagtgaacg agtgcg 10920
 tcgtccgggtg gattgtgtg cacctgaacg tcgacggcac ctcacccggg gatgac 10980
 ggcgtgttgg gggcgagttc ttcgagggtgg tcgggtcgatgg ttgtttggag ggcgagttc 11040
 aggagggccg ttccctggcac aagagtggta ccgacgcacgg tgcgttgggtt gggccagg 11100
 tgggtcgatc gggagaggcg gccgggtgat agttgtgtgt ttgtttggc gagggtgat 11160

gttgcggtaa ggaggggggtg gtgggtgggg gtgaggccgg tggtgtttag gtcgggtgtc 11220
 gtggtggtgt gtggagcca tagtgctgg tggtaagg ggttaggtgg caggtcgagg 11280
 tggtgttgtt ggggttgggg gtgggttgg gtgttagtggg ggtgccaggt ggtgggtgtc 11340
 cgaatgcggg tggtgtgggt gtgggcgagg gcggtgagga agcgggtgggt gtcgttgcg 11400
 ccgcggccgg ggcgtccggc cgccgtatg tttcgggtgg tggtttcggt ggtgtctcg 11460
 atggcggggc cgagggtggg gtggggactg atttcgatga agggggcggtg tccgtcgctg 11520
 gtcagggtct ggatggcggt gctaagcgg acgggctggg ggaggttgcg gtaccagttag 11580
 gcccgcgttca ggggtgtgt gtacccgacc aggtgcctca cgacgggtggaa gaagaacggc 11640
 atggtgacg gctgggggggt gatgtctcc agcagggtca ggagttcgctc gtggaggggt 11700
 tggacgtggg ggcagtggg ggcgtatcg acggggatgc gtttggccgg taggcccgtg 11760
 tcggcacagt gggtgaggag ttcttctact gcgggtgggtg cggccggagac ggtgggtggag 11820
 tggggccgt tgagggctgc caccacacaac tgcccttccc accgttgcga aatgagctgc 11880
 tgcacgtctt gggcgggcag gggcagttag accatggcgc cccggctcg tacggcggcc 11940
 agtgcctggc tgcgcgtgc aacggtttg gcggcgttca tcaggctgag tgcgcggcag 12000
 atgtggccgg cggcgatttc tccctggag tggccgagga cccgcgtcggtt tcgcgtgcg 12060
 taggagcggc acaggggcggc gagggagacc atgatgtga agagcacggg ctggaccacg 12120
 tcggcttgc gccatgcggg tgcgtgggg tcgcgggtca ggatgtcggt cagggaccag 12180
 ggcacccagg gggtgaggggc tttctcgcat gcgtcgatgt gttcggcgaa cacgggttag 12240
 gaggtgagca gggtcaggcc catcccgccg cactggccgc cctgtccggg gaagacgaag 12300
 acgacgcgcg cggcgtact gccccgggtg tggctgtgg tgatgtgggg gtgggggtcg 12360
 ccggctgcca gggctgtcag tgcctgcgc agttcctcgc ggtccgcggc caggatgacg 12420
 ggcgggtgtt ccagtaacggc ccggccgcgg gccagacccg caccgtatgc ggcagggtgac 12480
 atgtccgggc gggctggcac gtactggcgc aacgcctgtg cctgcggccg caacccggcc 12540
 tcagacctcg cgcacacccg caccggcacc ggcacccggct cagactcagc caccggaaagg 12600
 gctggattcg gagcacccac cgacacccca ccacccggcag caccgcggcgc gcccgcaggc 12660
 gcctcctcca aaatcacatg ggcgttgggtg cgcgtgacgc cgaatgtga cacgcggcg 12720
 tggcgtggcc ggcggccgg gtcggccggc cagggcaccg gttgtgtcag gagttgtact 12780
 ggcgcgtgtt accagtgcac ctgggggggtg ggctcgatca cgtggagggt ctgtggcagc 12840
 agcccggtgc gcagggtccat caccatgtt atgactccgc ccacgcggcgc ggcggccgt 12900
 gcgtgcgcga tggatgtt gaggatccc accacaagg ggcgttgcg gggccgggtg 12960
 tggcgttagg cggccaggag tgcctggcc tcgatcggtt ccccccaggat gttccgggtg 13020
 ccgtggccct ccactgcgtc gacatcgcc ggggtcagtc cgcattggc caggccctga 13080
 cggatgacac gctgtggga gggccgggtt gggccgggtca gaccgttgcg cgcaccgtcc 13140
 tggttgaccc cactgcccacg caccacggcc aggacacggt gaccgttgcg acgggcgtcg 13200
 gagagccgct ccaccagcag catccccaca ccctcgccg accgggtacc gtcagcagcc 13260
 gccgaatagg ccttgcaccg ccgtccgcg gccagacccc gctgacgtga gaactccaca 13320
 aacgtacccg gagacgacat caccgttaca ccccccggaa ggcacatcga acactcaccc 13380
 gcacgcaacg cctgcgcgc ccaatgcaac gccaccaacg acgacgaaaca cggcgatcg 13440
 acggtcacgg ccggaccctc aaggccaaag ctgtaggcca cccggccggc cgcgacgctg 13500
 cctgcgtgc cggtggcgat gaggccttcg aaaccctcg ggacatgtg gagacgcgcg 13560
 gcgttagtcgt ggtacatcac ccggcgaag acacccgtac gggagccacg catgcacagc 13620
 ggatcgatac ccggccgcgc gaacgcctcc caccgtgttcc caccgttgcg 13680
 ggatccatcg ccaacgcctc acggggactg atcccgaaaga agtccgcattc gaactcccc 13740
 gcctcatata aaaacccggcc ataccgcgcg tacgacgtcc cccgaccggc agggtccgaa 13800
 tcaaacaacc cctccagatc ccaccccccga ccggccggaa attcaccaat cgcacccca 13860
 cccgacgcaa ccagctccca caactcctcc ggcgaacaca cccacccgg aaaacgacac 13920
 gccatccccca caatcgcaat cggctcatcc gggcaaccc gatgaagtgc gacgtcgat 13980
 ggcgtctcgc ctccgcgtc gtcggccatc agtcacac gtaggtgcgc cggcagggtc 14040
 gtcgtatcg gctgttgcgaa gaccaggactg gtcggcgttgc gcatgtccgt tgcttcaccc 14100
 aggccgttac ggatccac cgtgtcaag gactgtcaagg ctaggtcgccg gacgcggag 14160
 tcaacggggta tcattccgg cgcgttgtgg ccgaggacgg tggcgatgtg ggagcggacc 14220
 agggcgagga ggggtgtgtg ctgttgttgc tgggtctggc cggccagccg ggcacgtcg 14280
 tgggcggccgt tgccgcacc accgttagt gttgtgcggg tgggtccggc gcccgggtggc 14340
 ggcaggaggt cctgcagcag gggccggcagg gggccggccgg gacgcagggtc ggcggccaggc 14400
 aggaccggcc ggtccagagc caggccgcga tcgaagagag ccagtgcgtc cggggtcgac 14460
 atgggatgca gaccggaaacg gatgtgcgc cgtgtgtcg gtcggccag gtcggccgtc 14520
 atcccgctgg ccttccca cagccccac gccagcgcaca ccccccggcag acccgccgccc 14580
 cggccgggtt acggccagcgc gtcacccggc gcatgtccgtt gccctggcccg 14640

gccgacccca ggatccccgc ggccgaggag aacagcacga acgcccacag ctccataccc 14700
 cgcgtcatgt catccagcaa aagagcggca tccaccttgg ccgcgaacac cgtgcccagc 14760
 cgctcgccgc tgagagagggc gatcgctcgca tcgtccagca caccagccgc atgcacgaca 14820
 cccgtcacgcg gacaccggc aggaacaccc tccagcagcc ggaccaccc cccgcgtcc 14880
 cccacatcac acgcaacaat ccgcacccctc gcccccaacg cggccagctc cggccgcaaa 14940
 ccctccgcac ccggagcatc cggaccacgc cggctcacca acaacagatc ccgcacccca 15000
 cacacaccag ccagatgccg cgccaccggc gcacccagca caccctgtccc acccgtaacc 15060
 aacaccgacc caccgcacaa ccacggcaac acctcccgac ccgatacatc aaccggcgac 15120
 tcaagtctgt tcagggcgtgc ggccagcacc cgctcaccac gcaccgcac 15180
 ccacacgcca ccacccgcac cacacgcacca ccattccagac cagaccatc accggcctcg 15240
 ttgcggcat cggcgtcgc gccgtctcg aggtcggtgt ccaggtcgag gaggacaaac 15300
 cggccggat gtcgtccgt cgccgaccgc accagccccc acaccggcgc acccaccaca 15360
 tccaccgggc cgtctccgg gccggccacc accgcacccc gggtcaccac caccagccgc 15420
 gaacccgcaa accgctccag cccagccac ccctgacca caccacaac cccaccaaca 15480
 acctcaccca caccaccggc accgcgcacca tcggcaccgg catccggca cggcaacacc 15540
 accaccggcc gcacaggccc accaccgctc tcacccacgt cctctgtccca cggccacgc 15600
 tgcccacaca cccgcacagg accccaccta gcccactgca ccgcatacag cgaacccgc 15660
 cgcccccgcg aaaccggagac agcacgcacac tgacccatat ccacaggccg caactcaaga 15720
 cgatcgaccg acgccaccgg caccgggtg tcgtcggtga tgcgacgcac caccggccgc 15780
 cctgtcgctc caagcgtcga caggcacgcg cgcacggaga ctgcaccatc cgtacggAAC 15840
 cgcagaccgt tccacacatg gggcacgcg ggggtccccc gacccgcac agaaaaggcagg 15900
 ccgggtccct gaagggcagc gtcgagcagg gccgggtgca gaccgtacgc cggccgtct 15960
 cccgacactt cttcgggaag acgtgcctcg acgaggatgt cgtccgtta gcccggagcc 16020
 ggcgcgaacc cttggaatgc caggccataa gcaaaggccg cgtccgttat ttgatcgtaa 16080
 gccgtgtca ggtcgacagg cgtagctcca acgggaggcc agggtcccgc aagcagctcg 16140
 tacgaggcag tgtcatcgta cttggcaggg ctcagcacac ccgcggcatc acgcgtccac 16200
 gcactggccg acgcatcgac tccaccactg ccgcctcac cgcgtgatgt gatggtcata 16260
 atgcggcgc acgactcgac cggcgcgcgca atggcaacct gaagggtcac gtctccgacc 16320
 tcaggaatga ccaacgggtgt gtggagcgtc agtcgttcca cgtgtcgca acccacactt 16380
 tctccggcat gaagggccag ttccgcgaag gccgtaccccg gcagcgcac gacaccgcct 16440
 accgcatggc cggcgagcca gggatgcgtg cgaacagaga ggcgcggctg cagtaggcag 16500
 ccgtccctt cggccagttc caatgtggcg cccgtatggg ggttgcgtt ggggtcgagt 16560
 cccgctgtcg acacgttgcg ggcacccggc tgggtgtttt cggccatgatgttgggtt 16620
 tggaaagggtt aggtggggag gtcgagggtgg gtgtgggtgt ggggttggtt gtgggtgggt 16680
 gtgttagtggt ggggttgcca ggttgggtgt gtttggcga ggttgggtgag ggggtgggtt 16740
 tgggggtgtt ggtgggggtt ggttgggtgtt aggttgggtt ggggttggtt gggggaggtt 16800
 tgggtgggtt ggttgggtgtt ggttgggtgtt ggttgggtt ggttgggtt ggttgggtt 16860
 tgggtgggtt ggggttggtt ggttgggtt ggttgggtt ggttgggtt ggttgggtt 16920
 cagagggtgg tgatgtgttg gacgggtgtgg ggggtgcgc tgatgacgag ggagggtgggg 17160
 gtgttgcgtt cggcgatggc gagggtgttt tcgtggggcgg tgatgtgtt ggttgcgtt 17220
 tgggggtgtt tgggtgggtt ggttgggtt ggttgggtt ggttgggtt ggttgggtt 17280
 cgttgggtgtt tgagggtgtt ggcgtcggtt agggttggagga tgccggcgag gtggggccgc 17340
 gtgatttcgc cgagggtgtt tccggcgtag tagtgggggg tgatgtgtt ggcgtcggtt 17400
 aggaggccgt ggaggggcgcac ctggaaaggcg aagaggccgg gctggcgta cggggctctgc 17460
 tggagcgtg cggccgttcc ttggagggtt gtgggtgtt ggggtgtt ggttgggtt 17520
 aggagggggg ggggggggtt gtcgagggtgg ggttgcgtt ggttgcgtt gtcgttgcgtt 17580
 gccggccgcg agacgggggtt ggttgggtt aggccgtgggg ccatgcggg ggttgggtt 17640
 ccctgtccgg agcagatgaa tgcgggttt cctgcggccct ccccggtccc ggtcccgctt 17700
 ggggcgttc tgggtgtt ggcgggggtt ggttgcgtt gggcgagtc ctggagtgtct 17760
 tgcaggaagg tggcgtcggtt ggcggcgatg agggtggcgc ggttgggtt gacggcgccgg 17820
 gctgtggcgaa ggggttatcc gacgtcggtt agggtcgaggc cgggggtgtt ggttgggtt 17880
 gctgtcgaggc cctggccctt ggcgcgcagg gccggctgcg acttggccga caccagccac 17940
 ggccacaccc ctggactgac ggcagcagcc tcctgcaccc taccggcatc ctcgcggcg 18000
 ggttggtcccc cccggaaacgtc gtcggcggtt gtgtctgacg ggttgggtt ggttgggtt 18060
 tcttcgagga tgacgtgggc gttgggttccg ctgcacgcgcg atgtacacatc tcctgcggcc 18120

ctagccgccc cctccccgcc gggccagggc accgtctccg tcagcagctg caccgcaccc 18180
 gcggaccagt ccacatgcgg cgacggctca tccacatgca acgtccgcgg cagcagacca 18240
 ttcccgagcg ccatcaccat cttgatcacc cccggcgacgc cccggcgacg ctgtgtgtga 18300
 cgcacattgg acttgaccga gcccagccac agcggccctg cgcggcacg gtccctgccc 18360
 taggtcgcaa ggagggcctg ggcctcgatc gggtcgccc aagtggtgcc ggtgcccgtgg 18420
 gcctccaccc catcgacatc accggccgac aagccggcgt tggcgagggc ctggcgatg 18480
 acacgctgt gggagggccc gttggcgcg gtcaagccgt tgctcgacc gtccctgggt 18540
 accgcactgc cagcaccac ggccaggaca cggtgaccgt tgcgacggc gtcggagago 18600
 cgctccacca gcagcatccc cacacccctca ccccagccgg tcccgccgc cgccgccc 18660
 aacgccttgc aatggccgtc cgcggccaga ccccgctgcc gcgaaaactc cacaaggca 18720
 cccggagacg acatcaccgt cacacccccc gcaagcgcga tcgagcactc accgcacgc 18780
 aacgcctgac aggccagatg taaagccacc aacgacgagg aacaaggcgt gtccaccgc 18840
 accgcaggac cctcaaaaacc aaacgtgtac gagatacgac cggaggccac actcccgat 18900
 gtgcccgtca ggacatagcc ctcgggtgtc gctgcccgt ttcgtgcag cctgggtcca 18960
 taggcctgctg gaatgaggcc cgcgaacacg cctgtctggc tcccgctac ggtcgtaggg 19020
 tcaataccctg cctgctccat ggcctccat gaggcctcca gcagcaatcg ctgctgcggg 19080
 tccatcgcca gtgcctcacc cggactgtac cccgaagaagc cggcgctgaa ctcccccgcg 19140
 tcgttagagga aactcccaca gcgggtgtac gaggtgccc gccgaccggg ttccggatcg 19200
 aacagtgtt ccaggtccca cccacggtcc gtccggaaact cgcgcaccgt gtccctcccc 19260
 gatgcgagca gttccacacg ctccctcggtc gaggtgacgc ctccggata gcccacgc 19320
 atgccaatga tcgcgacggg ctcgtctgg tctgcaggca cagccgcage acggggagct 19380
 gggatggagg cagtgtgtc cgagcccaga agttgtgtt ggaggtggg ggtgagggtg 19440
 gtgggggttgg ggtgtcgaa ggcgagggtg gtggggaggc ggagtccgg ggtgcgggag 19500
 agccggttgc gtagttcgac ggcgtgagg gagtcaagc cgagggtcg gaaacgcgcgg 19560
 tcggggggga tgggtcgccc ggtgtgttgg cggaggacgg tggcgatgtg ggagcggacc 19620
 agggcgagga ggggtgtgt ctgttgcgt tgggtctggc cggccagccg ggcatgcago 19680
 tgggcgcctg tggccgcacc accggtagt ggtgtcgccc tgggtcgccg ggggtggcg 19740
 ggcaggaggc ctcgcagcag gggcgccagg ggcggggccgg gacgcaggc ggcgggcage 19800
 aggacggcc ggtccagacg caggccgcga tcaagagag ccagtgcgtc cgggggtcgac 19860
 atgggatgca gaccggaaacg gatgtcgcc cgggtgtcgg tgccggccag gtccgggtc 19920
 atcccgttgg ccttcaccac cagccccccac gccagcgcaca ccccccggc accgcgc 19980
 cgcgcgcgtt acggcagcgc gtccagagcg gatctggccg cggcgtagtt gccctgccc 20040
 gccgacccca ggatccccgc ggccgaggag aacagcaca gcccgcacag ctccataacc 20100
 cgcgtcagct catccagcaa aagagcggca tccaccttgg cgcgaacac cgtgcccagc 20160
 cgctcgccgc tgagagaggc gatgtcgca tcgtccagca caccagccgc atgcacgaca 20220
 cccgtcagcg gacacccggc aggaacaccc tccagcagcc ggaccaccc cgcgcgtcc 20280
 cccacatcac acgcaacaat cgcacccctc gcccccaacg cggccagctc cgcggc 20340
 ccctccgcac cggagcatc cggaccacgc cggctcacca acagcagatc cgcacccca 20400
 cacacaccag ccagatgcgg cgcacccgcg gaccccgac cacccttccc accgtcacc 20460
 aacaccgacc caccgcacaa ccacggcaac acctcccgac cagcaacatc accggaccgc 20520
 tgagcaggtt catcaacggc cgactcaagt cgcgtcaggc gtgcggccag caccgc 20580
 ccacgcaccc ccaactgcgg ctcaccacac gcccaccacg cgcacccatg cccaccatcc 20640
 acgccccaaac cagcaccacg accagcacca gacccgggtt cgggtcggt gcccgtgtc 20700
 gtgtcggtt cgaggtcgag gaggacaaac cggccggat gtcagcctg cgcgcaccgc 20760
 accagcccc acaccgcgc acccaccaca tccacccggc cgtctcttgc gcccggccacc 20820
 accgcacccc gggtcaccac caccagccgc gaaaaacccaa accgctccag ccccgccac 20880
 ccctgcacca caccaacac cccaccaaca acctcacca caccacccgc accggccca 20940
 cggcaccgg catcgccgc cgcacaccc accacccccc gcacaggccc accaccgtc 21000
 tcacccacgt ctcgtcgca cgcacccgc tggccacaca cggcgcacagg acccacctca 21060
 gcccactgca cgcatacag cgaacccgc cggcccgccg aaaccgagac agcacgcaac 21120
 tgacccatat ccacaggccg caactcaaga cgatcgaccg acgcccaccg cacacccgc 21180
 tcaccccgaa ccacgaccga caccgcctca cgcacccgc cccgcctac agccacaca 21240
 cgcacccgca caccggcgtac accccggccgg tgaagcgcaca caccacccca cacagccgc 21300
 acccgaacac cctcccccga ccccgcccccc tcccaaacc cgcacccacc cggcagcaac 21360
 accgacaacg gctggaccac accatccagc aacgcggat cggccaaaa accagccgc 21420
 tcacccacg ctcctccgg cagacacacc tcagccagca aatcccccc atcacgccc 21480
 accgcacgca gccccgaaaa caccggcccc aaaacacaac cagccccagc caaacggtca 21540
 cggacaccat cgacatccac cgcacccgc ccccgccggc gccacacccc cgccagacca 21600

tccaccacca caccaccacc agcagcagcc tcaaccagca cccccgaggc atgacacgtc 21660
 cacaccaccc ccgacgcacc accccacca caagcactcc caccggcgc atacacactc 21720
 accaaacgcc gcccctcccc atccgcagcc gcaaccccaa cctgcacact cacacccca 21780
 cccacagaa ccaccagcg cgcatgcaca gtgagttgtc cgattcggt gcagccacg 21840
 cgttcgccaa cctggaccgc cagctccacg aacggcacc cgcacagcag gaccgcaccc 21900
 cccacctcgt aatcgccca gCACGGATGC gagcgcagaagg acaggcgacc cgtcagtagg 21960
 cagccgtccg tgctctgcgag ttggactgtt gcccgcgagca gagggttgc gggcggctcc 22020
 aaggccagcg cggcgacgtc acctgctccc gtgggagcgt cgagccagta gtgctggcgt 22080
 tggaaaggat aagtggggag gtcgagggtgg tggttgtggg ggtgggtgtg gtgggtgggtg 22140
 tagtgtgtgt gccaggtgtt gggtgtgccc atgcccgtgg tggtgggtg ggccgaggcg 22200
 gtgaggaagc ggccgggtgtc gttgtcggcc cggcggaggg tgccgatcgc ggtgacgtct 22260
 tcggcgggtgt cttcggtgt tgcttcgtat gccccggcggc ggggtgggtg ggggtgtact 22320
 tcgacgaaga cgcgggtgtcc gtcatccgc acggcctgga cggcatcgct gaaacggaca 22380
 ggctggtgca ggttgcggta ccagtagggc gcttccaggg ttgtgtgtc cagccagggtg 22440
 ccctccaccc tggagaagaa cggcacgcg gacggctgcg ggtgtatgtc ccccagcagc 22500
 tccagcaact cctccgcag gggctgcaca tggggggcgt gcgaggcata gtcgaccggg 22560
 atccgccccg cccgcacccc ggtgcccgc cagtafcgc gacccctcg caccgcctcg 22620
 gcatccccc agacggcggt ggagcggggg cgggtgaccg cggccaccca caaccgcggcc 22680
 gcccacccgt caccaatgag ctgctccacc tccctggcag gcaacccatcg cttcgcccg 22740
 cccgcggc cccgcacage gggcagcgcc cggctgcgc gcaacacgt cttcgcccg 22800
 tccttcaggc tcagcgcccc acacacatgc gggccgcgc tctcgccctg ggaatggca 22860
 aggaccgcgt cgggttcgtat accgttagaa cgcacagag cagccaaaga caccatgacg 22920
 ctgaacagca caggtggac cacatggcc cgttccacca cccatcccg cggatcccg 22980
 cgcaggatgt ccaccacaga ccagtcacc cacggcgccca gacccctctc gacgcctgc 23040
 atccgccccg cgaacacccgg agaggaggcg agcagacgc caccatccc gccccactgc 23100
 ccaccctgtc cggaaacac gaagacgaca cggcccccgtt caccacccgg cgcatgaccc 23160
 gtggtacccc gccgatccgg ctcaccggcc gccagcgccc ccaaccctt caccagctcc 23220
 tcacggtccg cggccaggac gaccgcacga tgctccagca cagccggcc acaggccaga 23280
 cccgcaccca catcgccaaag cgaaacgtcc gggcgactg ccacgtactg acgcaacgc 23340
 tccgcctgcg cccgcacccc agcctcagac ctagcgaca cgggcacagg aacccggcacc 23400
 ggcaccggca cccgcacccg ctcagccacc ggcgcagaca cagccactgg agccggccacc 23460
 gactcagcca cccgcacccgg aagacccggc gcaacccttca acacccacc cccggcaaca 23520
 cagcccccgg cccggccgc ctcctccaaa atcactatgc cattcgcc actgacccgg 23580
 aacgcgaca ctcccggccg cccgcacccg cctggccgtt ccccgccca cggcaccggc 23640
 tccgtcagca gccgcacccg ccccgccggac cagttccaccc gggcgacgg ctcatccaca 23700
 tgcaacgtcc gccgcacac cccctccgc aacgcctatca ccatcttgc gacccaccc 23760
 acacccgcgg cccgcacccg atggccgtat ttgcacttca cccatcccg cccacagccg 23820
 ctgttacccg cccgcgtccc gtacgtggcg agcaacgcct ggcgcctcgat cggatcacc 23880
 agcgtcgtgc cccgtccatg cccctccacc acatccacat cccgcacggc caaccccg 23940
 ttgcggcaacg cctggccggat caccggctcc tgagccggac cattcgccgc cgtcaaccc 24000
 ttgcacgcac cgttctgtatt gaccgcactg cccgcacccg cccgcacccg cccatgc 24060
 agccgcacccg catccgacaa cccgcacccg aacagcatcc cccgcctc gcccattccg 24120
 gtgcgcgtcg ctccacccgc gaaggactt cccgcacccg cccgcacccg tccgcgtctgg 24180
 cgtgagaact cgacgaagag gtgcgggggtc gacatcaccg tcacccgc gggcagcg 24240
 agcgtcact cccgcacccg cccgcacccg atggccgtat ttgcacttca cccatcccg 24300
 gaacatggcc tggccaccga gacggcaggc ccctcgagac cccatcccg cccatcccg 24360
 cccgcacccg cccgcacccg gtcaccgtt cccgcacccg cccatcccg cccatcccg 24420
 gtaccccgcc gggatccgtat gtcgtggatc ataccccccgg cccatcccg cccatcccg 24480
 cccgcacccg acacggatc gataccggcc cccgcacccg cccatcccg cccatcccg 24540
 aacaacccgt gtcggatc cccatcccg cccatcccg cccatcccg cccatcccg 24600
 gcatcgaact cccgcacccg atacaaaaac cccatcccg cccatcccg cccatcccg 24660
 cggtcagggt cccatcccg cccatcccg cccatcccg cccatcccg cccatcccg 24720
 ccaatcgcat cccacccgc cccatcccg cccatcccg cccatcccg cccatcccg 24780
 cccggaaaac gacacgcacccg cccatcccg cccatcccg cccatcccg cccatcccg 24840
 gtcggccatg gtcattacg tgccgcagg gtcgtggatc cccatcccg cccatcccg 24900
 gtcgtcgacca gtcgtggatc gacgtgtcc atactgtct cccatcccg cccatcccg 24960
 gaaaggcccg tatggccgtat agggggaaaag cactgtatca tgccggagcc gacggatac 25020
 caccgcactgg cccatcccg cccatcccg cccatcccg cccatcccg cccatcccg 25080

cgcgatcagg accgcgatca gaggcgcgat cagcgccgca ctgatgcgat ttctgtcagc 25140
 cattcgtcga catgccgagc agtgcgaatcc gcaaacttgtt ccagcatcgta gaagtgattc 25200
 ccctggatgt ccagaacgggt gtgcggaaact ccccacggcg gcggcatctg ttctccgtcc 25260
 cggccgcgca ggaagagggc gggtgtggtg atgtccggag gactccagcc ggagaagatg 25320
 cggaaagtatc cgcgcgttgc gaccaggcggt gttagtcca cgtccacaaa ctgcgtgacg 25380
 cggtcgaaga ttctacttgtt cagcgcggac ggcacagggt cgatgcgctc gtccgggaga 25440
 taggcgttcca tggtcaccac cgcttccggc cggacgccta gacgctccag atgactcgtc 25500
 accgcgtaga cgaaccatcc gcccgggaa tgcccggcga gcgaaaaaagg cgcgcgtcg 25560
 gtgaaccggc cgatcgctc ggcaacatc cgggtcaccc cgccgattcc ggacggcagg 25620
 ggttcgccct ccaggaaccc tggcgcaggaa acgtaccaga cgtctcggtg tccgttca 25680
 cccgcgcga aacgtgatc ctggtacacg ctcacacgg cggcgcacgg gggcaggcag 25740
 atgaggggcg gccgttttc gccccgggca agtgcgttac cttggcgcgc cgcttcaccc 25800
 tgggcgagcc ggacgaacgt cggctccggg atgtccgagg ggtccgtgaa ggcgggcccgg 25860
 aagaaggagg cccgcgagag cagggccatg gactcctcga tgcggcgggt gtcgtgtccg 25920
 atccagaaca gggattcgcac ggttcgggt gagggtccgc ccctggtctg ctgcttctcg 25980
 ctccccgtac tgcgtgtctg tccgtctcg gcactccctg cgctccggc cccggctgcc 26040
 gcgccggcag gggccggctc gtccggcgtg cccgcctcgg cggtcaggcg ggtcgcgagg 26100
 tgatcggtcga gtggccgggg gctgggtctgg tcgaagatga gcgttgcggg gaggcgcagg 26160
 cccgtgacgg cggtgatccg gttgcggagt tcgacggcgg tcagcgtac gaaagccgagg 26220
 tgcggaaact cgggtgtcgcc cgggaccaga tcgtccgggta gtgcgcgtc cggcgtgtg 26280
 acggcgttgg tgggtggcc gaggacggcg ggggcattggg tccgtacgag ttccaggagg 26340
 agaccgggtc gctgcgcggg gatggtgagt cggccaggc gctcgcgcag cgtggcgggg 26400
 gtgtcggtcg cgatgcgttgc gtcggcggac cggccggggccg ggtgcggat cagccgtgc 26460
 agatgcgcg ccaaggccgc gggcgtggcc tgcgtgtggta gggtggccgc gtcgagccgg 26520
 gtggcgagga gcaagccgc accgaaaggc cggaggcgat cgcgtgtc gaggagcgcg 26580
 agtccctgtc cgttggacag ggggagcagg cggccgcggg ccatgcgcgc gaagtgcgtg 26640
 cccggcggatgt tgcgggtcat gccgttgcgc tcgccccaaa ggccccaggc gaggcaccgg 26700
 cccggcgttgc cctgggtgtg gccgttgcgc atcaggggcgt ccagaaaggc gtgcgcgcg 26760
 gtgttagtgc cctgtccggg actgcggaaag gaggcggcgcc cggaggagaa gacggtaag 26820
 gtggtgaggg cggcgtcgcc ggtcaggtcg tgcagggtcg cggcgcgaa cgccttcgcg 26880
 tgcaggacgg cctccatgcg ctccggagt agcagggtga ggtgcgttc gtcgaccaca 26940
 cccggccgtgt ggatcaccgc tttcaggggg tgcgtgcgcg cacttggtc gaggagcgcg 27000
 gcaacggccg cccgggtcccc gatgtcgcag gcccgcaccg tggccttcgc gccgaggccg 27060
 gcaagttcgg cgaccaggc ggcggcgcg tccgcggccg tgccgcggcg ggtggccagc 27120
 agcagggtgcc gtaccccggt ggcgcgtggc agatgacggg cgaacgcgcg gccgaggacg 27180
 cccgttaccgc ccgtgatgag gaccgtggcc tccgggtccc agtcggcgtc ggtgggtctc 27240
 ggctgtgtc gccggacggg cactcggtc atccgcggga tgcggacggc accatttcgc 27300
 agggcgatct gcggttcccc ggcgcaggcagg ggaaggccgt tgcgggaggc gtcgggtgtc 27360
 tcgggtgtcg ccagcaggaa cccgggtgggg ttctcggtct gcacggagcg gaccagtccc 27420
 cagacggccgg cgtgtgcgag gtcggacacg ggctcgtcg ggtgcgggt gaccgagccg 27480
 tgcgtgagga gggccaggcg gcaggccgcg accgttcgt cggcgcacca ttctggagc 27540
 agggcgagga cgggggttgtt ggcttgcgg gttggcgtcg cggggccgtt ggagtgcggcc 27600
 gggggccgagc cggccggggcc ggaatcggtg agggcgaaat cggtgagggc ggaatcggtg 27660
 gggggccggatg cgcgttccgg ctcgcacgag atgacgacca tgcgggtgtc cggggcgcgg 27720
 gccgcgcaggc ttctcggtcg agccgcggg tccgggttagg cctgcgcagg ggcgcgttg 27780
 cgctccaggc cggcggccgt cccggggca cccggggccga ttaggggcca gtcgggtgtc 27840
 cgtgcgggtg tggggggagat gtgcagcgcc cgcatttcga tgcggaaagag gtgggtgtgg 27900
 tagccgtgc ggcgcggctc gagctgtcg gcccggacgg gcccggaggc gaggggacccc 27960
 gcccggatga cgtgcgttcc cgtgcgtcg gtggccaggca gtcgcacccgc gtcctcggtc 28020
 gtgcggacgg tgagacggac gtgcagggtg gaggcggccgg aggccggcgc cgtgacgcgg 28080
 gtccaggaga acggcaggca ggcgttcccg tccggggccgg catgcgcctc gtggcgcaga 28140
 acgaccgggtt cgcgttccgc gtccaggcagg gcccgggtca gggcgttcccg ggcggcgtcg 28200
 gcccgcgttc cctccgtgtc tccggcagg gtgcacgcgg cgaacaccc tcgtccgcgc 28260
 cggccaggaccc cgcgcaggcc ctggaaacc gggccgtata ccaggccggc gccggccagg 28320
 tgctcgtaacc agccgtccag gtccaccgg gtcgcgtcg cggggcgcca cgtttccgt 28380
 gtgtgcttccct ccgcggggccg ggcgggtcccg gtcaaggacgc cggtgccgt gcaagggtccac 28440
 tcgggtccgg tccgcgcgcg gacgaggac gacagtccgt cgtttcgcc ggcgtacagg 28500
 gcaagggtgc gccgttccggc tccctccggc gtctggggc cctgggtgc cccgcacggag 28560

agttgcagga tcaccgagcc ctgttcggga aggacgagcg gtgtccgcag ggtgagttcc 28620
 tcgacgggtgc cgcaagtgcac ctcgtcgcct gcgcgcacgg ccagttccag gatggccgtg 28680
 ccgggcagca ggacgggtacc gaagatggcg tggtcggcca gccacgggtg tgtgcgcagg 28740
 gagagacggc cggtgaagag gagttccgtc gactcggcca gtgccaccgc ggaaccgagc 28800
 aggggatgcc cggcggtgcc gagccccgtc gccacaggt ccccccggtg gccggccgag 28860
 gtgtcgaccc agtagcggtg gtgatcgaag gcttaggtcg gcaggtcgag gtggcgggct 28920
 cgatcgcggtt cgggcagggc ggcgggcccag ttgaccgccc cgcgtccgtc cgtatgcagc 28980
 cggggcaagg cggtgagcag ggtggccgggt tccgggtctgt cggggccgtag gagcgggatg 29040
 agcagggtctt cttgcggggt gccgggtctcg tcgtcggccg ggtggctgtc ggcgggtggcc 29100
 tctaggcatt cctcggccag tgccgacagg gtcggctctg ggcccagttc catgaaggtg 29160
 cggactccgt cgggtgtcag gcggctgtatc gctcgccgaa agcgcacggt ccggcgatcc 29220
 tgccggaccc agtactcggg tgcgtctcgt tctccggccg ccacgtgtc gccggtgagc 29280
 gtcgacacca tggaaatggc tggttcgtc taggtcagcg aggccgcgac ctgctggAAC 29340
 tcctccagca tcgggtccat cagcgggtgag tggaaaggcat gcccgggtcg caggcgcttg 29400
 actctccgccc cgcgctcggc gaaccagtcc gccatgttcc ccacctcgtc ctcggcgccg 29460
 gagaacacca cggaggcggg tccggttacg gccgcgaccg acacccggc ttccggccg 29520
 tcgagcgccct gtcgcgcctc ggcttcgtc gcccgtacgg cgaccatggc gcccgttgt 29580
 gcgagctgct ccatcaggcg cccgcgggccc gccaccaggc ggcaggctgc tgccaggggA 29640
 agcaccggcg cgacgtgggc ggcgcgagc tcgcccgtatcg agtgcggcgc cacgaagtcc 29700
 ggcgcgacgc cgagacgttc caggtggccg aagagcgcga cctggacggc gaacagcgcc 29760
 ggctggcggt accgcgtacg gtccagaaca tccgcggcat cgcgcacatc cgcaagatcc 29820
 gcactggcggt ggatcagcg ggcgcaggggc tggtccaggt gaccgtccag ttccgcccgt 29880
 acctggtcca ggcgtccgc gttagggccgg tgagccgtat acagctgacg gccattccc 29940
 acgcgttgcg tgcctgtcc ggcgaacagc atggcggtct ttccgcccgg gcggcctgag 30000
 tggccgcac ggcggccgac cgacccttcg atcaggccgt cgcgcgaccg gcccctcgcc 30060
 agcgcgtcga gggcctgaag gaagccgtcg cgggtccgtcg ccacgcacgc gggccgggtga 30120
 tcgaacacgg accgcgtgtc cgcgcaggcg tggccacacgt cggccggccg ggcatcggt 30180
 gcccctggcag cgaactgcgc caaccgtcgc gcctggcccc gcagcgtctcg ctggacttg 30240
 gcccggagcga gccacgggat gggcaggagg gcccggcttgc cggacatggc gtccggcagc 30300
 cactccgggtt caggcgactt gtcggacacg gcctcggcga cgcactcgtc cgacatctcg 30360
 gacatggcggt cggcgacgc ctcgggttca ggcacatctc cggtcacggc gtacgcagc 30420
 cactccgggtt caggccgcctc ctcttgcggc tgggtgaggt cggccgggtcc ggtggcgtcg 30480
 accacgtggg ggcgcctcgac cgggcgtctc tgcacgtatgc cgtgcgcctc agccggtaacc 30540
 ggctcaactga tgacgtgcgc ctgcgcggc gcctgctcga tgatgacgtg ggcgttggtc 30600
 cggctgactc cgaacgcggc gacgcggcg cgcctggggc ggcgttctg ctgcccacgg 30660
 acgggctcggt tgagaagccg gacgcggccg ctcgaccagt cgatgtgggg ggagggttcg 30720
 tcgatgtgca ggctggtcgg caacagttcg tggttcaggg ccatgaccat cttgatcaca 30780
 cccggccacac cccggccagc ctgcgcatgc cgcgttgc acctcacccga ccccaaccac 30840
 accggccgct ccccccgaacg accctggccg taegtggcga gcaacgcctg cgccctcgatc 30900
 ggatcaccca acgtcgatcc cgtcccgatc ccctccacca catccacatc cgccacggac 30960
 aaccccgcac acgccaacgc ctgcgcatac acccgctgtc ggcacggacc attccggcgc 31020
 gtcaacccat tcgacgcacc gtcctgattt accgcactcc cccgcacccac cgccaaaacc 31080
 cgatgaccac gacgttcagc ctgcggacagc cgctccacca acagcacacc cacaccctcg 31140
 gcccagccga ccccatcgcc ccccgaccccg tacgccttgc accggccgtc cggcgacaga 31200
 ccccgctgcc gcgagaactc cacaacgc cccggcgctc acatcaccgt cacacccccc 31260
 gccaacgcga gcaacactc ccccgaccc acgcgcgtac acgcacatg cagcgcacc 31320
 aacgacgacg aacacgcgcgt atccacccgtc accgcgggac ctcgcgaagcc gaagggtgtag 31380
 gaaagccgccc cggagacgc gctgttgag acgcgggtga ggcgttaccc ctgtggtcc 31440
 tgggtggccgc ggcgcaggag ctgcggcttag tcctgtcg agacgcggc gaagacaccg 31500
 gtcgtggacc cgtgcagcggt ggcgggggtcg atggccggcc gtcacacgc ctcccaggac 31560
 acctccagca tcaaccgcgt ctgcggatcc atgcgcacgc ctcacgcgg actgatccc 31620
 aaaaaccccg catcgacactc cgcgcaccc tgcaaaaaacc caccacaccg cgtgttaggac 31680
 gtacccggccc gcccggctc cggatcatag aaagcctcca cgtcccaacc cgggtcgacc 31740
 ggaaactccc ccacccgcata cgcgcaccc ggcgtcaact cccagaaatc ctccgcccac 31800
 tccacacccc cggaaaaacg gcacgcaccc cccacaatgg caatcgcgtc gtcgcacatcc 31860
 acacgcgggt cggggccccc aaggcaagg gcaaggccag tgccgggtgt cgggttcccg 31920
 cgcgtcagct gtcgtggat gtgtggccgc agtgcaccc ggcggggatg gtcgaacacc 31980
 agggtcctcg ggaagcgcag gcccgtggcg gtgttgcggc ggttgcgtag ttgcacggcg 32040

gtgagggagt cgaaaccgag gtcgcggaag gcgcgctcg ggaccaccgc atcggcgtg 32100
 ccgtgtccaa ggacggccgc ggcatggta aggaccaggt ccagcacggt ctcggcctgt 32160
 gcggcggggt cgagtccggc gaggcagtgc cgcatcgatgc cgccgcgcac ggtgtccacc 32220
 gcctccgaca actgaccacc ccactgccc gagaccccg aaccccgcg cgccccctcc 32280
 acatccagcc aaaagcgctc tcgctcgAAC gcatacgctcg gcagctccac cccgcaacca 32340
 ccagcgaccc cgcgaccaac actcccgAAC acaccggacc actcaaccgc caccggacc 32400
 acgaacaact cggccacgga catcaggaag cgtcgcaagc cgcctcgcc cggcgcaga 32460
 gatccgacga ccaggctgc caagtccacc atctcgatcca gggtttctg cacaccgacc 32520
 ggcacggccg gatcgccggca cgcctcgat aagacgggtg ggcggccgc gaccagcgcc 32580
 tgggtcgctg cccggaaagcg gacgacctgg cgcaagggtgc ggttaccatg tgcggcgtcg 32640
 agttcgggtc cgtcgatgc ttccgggtg acgggtggagt agaagggcac gtcggcgtc 32700
 ctgcgcggg tggggggcgag gaggatcgagc agccggccct ggatcgctc gacctgcggg 32760
 gagtgcgacg cccagtcgac catgaggctg cggggccggta cgtcttcgtg tgacagctcc 32820
 tccaccaggg cgtcgaccgc ttccggctcc cggagagacca cggccgaacg cggcccggtc 32880
 acggcggcga tgaccagacg gtcgccccat gtcgaagac gcccgtccag cttctcgacc 32940
 ggcagaccga cggatgccc cggccctgc cggccagtg cggccagcgc ctggctgcgc 33000
 agggcggtga cccggggcgcc gtcgtcgagg gagagtgcac cggcgacgta ggcgcgtcg 33060
 atctcgccct gcgagtgcgg ggcacccgcg tccgggtgta caccgtacga ggcgcagagc 33120
 gccgccagcg agaccatcac cgcgaagagg acgggctggc cgacatcgac gcttgcaga 33180
 gggggtgcgt ccggtgcggc ggcgaggacg tcgaggagag accagtccag gtacgggtcg 33240
 agggcttggg cgcagtcgga catctgtgg gcaagagaccg gtgaggagcc gaggagttcc 33300
 tgcgcattgc ctccccatgt ggtgcctgt cctccgaaca gcatggcgat cttccgtcg 33360
 gccgcgggtc cggccacacc ctgtaccacc cccgcgggtgg gtgccccctc ggccagtgcg 33420
 tcgagtgcgt gcaggaactc gtcgcggtcc tcggccacga ccaccgcacg atgctcgaaac 33480
 accgaccgcg cggacaccaa agcccgcccc accccagccg gactcaccacc cacaccatcc 33540
 gcaccccccac caaccggccac aaccccaacgc aaccgcacgcg cctgcggcccg caacgcacac 33600
 tccgaccgcg cggacacccac ccacggcacc acccccgaaac cggacacccac cccggaccc 33660
 aactccgtca gccggcccgcc accccatcc gcccggcccg acgcctctc caaaatcaca 33720
 tgcgcattcg tcccaactcacc cccgaacgcg gacaccccgcc caccgcgcg cccgcgtcc 33780
 acccccgcc accccacactc atccgccaac acacgaaccg acccaactcga ccaatccacc 33840
 tgcgcacgcg gtcatccac atgcaacgtc cgcggcaaca ccccccggcc caacgcacatc 33900
 accatcttga tcacacccgc cacacccgc gcaacgcgtcg catgcccgt gttcacttc 33960
 accgaccacca accacacccgg cggctccccc gaacgaccct gcccataagt ggcgagcaac 34020
 gcctgcgcct cgatcgatc acccaacgtc gtacccgtcc cgtgcctc caccacatcc 34080
 acatccgcca cggacaaccc cgcacacgc aacgcctgcg gaatcaccgg ctgctgcgac 34140
 ggaccattcg ggcgggtcaa cccattcgac gcaaccgtctt gattcaccgc actcccccgc 34200
 accaccgcca aaaccccgatg accacgacgt tcagcctcg accgcgcgc caccaacagc 34260
 acacccacac cctcggccca gcccggccca tcggggcccg acccgtaacgc ctgcacccgg 34320
 cggccggcg acagaccccg ctgcccgcg aactccacaa acgcacccgg cgtgcacatc 34380
 accgtcacac ccccgccaa cgcacgcgaa cactccccc accctaaccgc ctgacacgc 34440
 agatgcagcg ccaccaacgc gacgaaacac gcccgtatcca cgtcaccgc cggaccctcg 34500
 agcccccagggt tgtaggcgac gctgtccggat gtgacgctgc tggacaggcc cgtcatggcg 34560
 tagccctcgaa ggtcctcggt ggcccggcgc acgaggctcg cgtagtctg actgcacatg 34620
 cccggcgaaga caccggctgt ggaccggcgc aacgtggcg ggtcgatgcc cggccgcctcc 34680
 aacgcctccc aggacaccc cgcacatcaac cgcgtcgatcg gatccatcgca aacgcctca 34740
 cggcggactga tccggaaaaa ccccgactcg aactccggccg caccctccag gaaacggccc 34800
 cggccgttat acgacgaacc cggccggccccc ggctccggat catagaaagc cttcacgtcc 34860
 caaccccggt cgacggggaa ctctccacc gcatcccgac cgcacgcac cagttccac 34920
 aagtccctcg cgcactccac acccccccggaa aaacggcaccg ccatccacc aatcgcaatc 34980
 ggctcgtaa cgtcgacacg cgcacggccgg accggaggag caatgtcaccg ctggccgccc 35040
 gcgcctccct ccagctgttc ttggaggat cccggccagcg cggaggaggat gggtagtcg 35100
 aagatcagcg tggggggcag gaggagcccg gtgacggcgt tgaggcggtt ggcgcgtcg 35160
 acggcgcgtca cggagacgaa gcccaggatcg cggaaaggctc gtcaggccg taccggcgtg 35220
 ggggtgtgt gtccgagcac ggtcgccgcg tacgtacggg ccaggctcgag aagcgcacgt 35280
 tcctgctcg cgggtgtccat ggccttgcg cgtgcggaga acgagtcggg ggtatcggtg 35340
 gcgggtgtcgaa gtccgggtgt ttcccgccg aggctgtctt cggggatgtc gctgtatgagg 35400
 ggcgagagtc gggagccggg gaggagttt ggcgtgaatc ggtcccgatc gatgtcgccg 35460
 accgtcacac aggtctcgatc atggtccaaac gcctggccca gtgcaccacg cggccgtctcc 35520

ggcgtcatcg ccgccagacc cgcacccgc atctgcccc aggccccctc cgccatcccc 35580
 ccaccagccc acggacccca cgccaccgca aaccccgca ggccctcacc acgcccgtgc 35640
 cgaacgattg cttcacata cgcgttcgca gcccgttaac tcccctgtcc cgccggcccg 35700
 aacgtcgccg cagccgacga gaacaccacg aaccccgaaa gatccgcccc cgcgtcaac 35760
 tcacatgcagat tccaggccgc cagcgccttc gcccgcagca ccccccgtgac acgctcgac 35820
 gacaaccctt ccaacacccc gtcatccaca actcccgccg catgcaccac cacacccagc 35880
 gggactccg cggaaacggc cgaccgcaac acctccgcca acgcctcactg gtccgcccga 35940
 tcacacgcca ccaccgacac cgcgcgccc aagccatca agtccgtctcg gagttctcg 36000
 actccctggg cgctctcccc gcgtcggtct accagcagca ggtgttccgc gcaacgcgg 36060
 gccatccacc gggcgacgtg cgcacccaaac tcgcccgtgc ctccggtgac gagtacggg 36120
 cccggggcc gccactcccg ctccgcgacg gcctcctcca acggcggccg cacaaccgc 36180
 cgcacaaacg ccccgaaaga cgcacggca aactactt cacccttcc cccacaccc 36240
 gccagcacac ctaccaaaccatc atgcaccacc cgcgtatcca cgagctccgg cacatcaacc 36300
 agccccacccc agcggtccgg tgccctccgc cccaccacac ggcccagccc ccacaccaca 36360
 cccgaggccg gcccccacac agcatcccg ccccccacccg acacggcccc gcccgtcaca 36420
 caccacagcc gccccccac gcccacatca cccagcgccct gcaccaaccc cacagacgccc 36480
 actcccgct gcacgacgccc actcccccag cccacaaggg agacgacacc gccgacagcc 36540
 tcaccatcgat cccgcctcactg cagggtggccg gcaacacactt ccctgtctc acaccccgct 36600
 tccacctcca cccgaaccac tcgcgcctca caccgcttca acccctccgc caccacatca 36660
 accggggcccg cctcgccctc ggacaccacc agccacgcgc cgcacagccc ccctacacca 36720
 ccccccggaaa cgggtcgcca cacctccga tagcgccacc cgtccaccac ttacacgtcg 36780
 tgccgtaccc gccccattc ccccaacgccc gacaccaccg caccaggcga cgcccccctca 36840
 tccaccccaa ggagcgatgc caccacccccc gcatcaccac actcgaccgc ctcccaacaac 36900
 ggaccacccc acatcccgaa aaccccgaa cctcccgccag atcccttctc cactgtccagc 36960
 caaaatcgct cccgctcaaa cgcatacgtc ggcagcttca ccccgcatcc atcaccgacc 37020
 tcgcgagcag tccctcgaa cacaccggcc cactcaaccg cgtcccaggc cacaacaac 37080
 tccgcaggcg cggcatgac cgcgcgtgcc tccggcttgtt cggccgcag ggcggggatg 37140
 ggcggggccg gtgacttag cgcgtctgt gcgaggggccg acagcgtgcc gtcggggccg 37200
 atttcgaggc aggtggtagc gcccgttcc tgaagccatg agatgcgtc cgcaaaacgg 37260
 accgtgtgc gggcggttcc gaccgttag tccgggggtgc acatggtctc ggcggggagg 37320
 ggcgcgcggc tgacgttggc gacgcgggaa atccgcgggg cgcgtgaagg gacgtctcg 37380
 ggcgcgcggc ggaagtgcgc caacatggcg tccatgtcg gcgagtggaa ggcgtggctg 37440
 gtcccgagcc gccccgtgcg gcccgcgttcc gcccgcatt gtcgcgcag gtcaggacc 37500
 gcgtcctcgat ccccgagag gacgatcgac cgcgcgcgttcc tcaccgcggc gtgcgcgacc 37560
 cgggatgcgt attcgccggg cagcgggagg atctcgatcc cggacgcctc gatggccacc 37620
 atggctccgc cggacgggag ccctgtcatc aggccgcctc gtgcgaccac cagtgcacc 37680
 gcgtcgccaa ggacagacat cccggcgaca tggcgcccg ccagtttacc gacggaatgg 37740
 cggaggacgt agtcggcgat cagaccccgat gtcccgatca gccggaaacag cgccacccctcg 37800
 aaggcgaaca gggcgccgtg ggcaaaaccc gtgtcctcgat tcagccggcc ttccggagag 37860
 tcctgcgggt cgaagagtac gtcccgacgc ccaggggcac cggggtcgggt gggggcggtg 37920
 tcggcctccg cgcagatctc gtcgtggcc tggcgaaga cgggtacgc ctctacagt 37980
 tcgcggccca tgctcgccg ctgggttccc tgcggccgcg agatgcgtc gagttcgccc 38040
 gaggtgggttcc gtccctcgac gacgcggggc acggggcgcc cggggccag tgcgtcgagt 38100
 gcgtgcagga actcgccgcg tccctcgcc acgaccaccg cagatgctc gaaacaccgac 38160
 cgctccgaca ccaaagcccg cccgacccca gcccggactca ccccccacacc atccgcaccc 38220
 ccaccaaccc ccacaacccc acgcaaccga cgcgcctgcc cccgcaacgc caactccgac 38280
 cgcgcgcaca ccacccacgg caccacccca gaaaaacca cccaccccg acccaactcc 38340
 tgcagccggc cccgcacccccc acccgccccc cccgacgcct cctccaaat ccatgcgca 38400
 ttgcgtccac tcacccggaa cgcagacacc cccgcacgc gcaacccgccttccacccccc 38460
 ggccactcca cctcatccgc caacacacga accgaccaccatc cgcgtacccatc cactgtcgac 38520
 gacggctcat ccacatcgaa cgtccgcggc aacaccccg cccgcaacgc catcaccatc 38580
 ttgatcacac cccgcacacc cgcagcgtcc tgcgtatcgatc cgtgttgcgatccaccgac 38640
 cccacccaca cccgcgtgc accggccgcg tggccgtacg tggcgagcaa cgcctgcgc 38700
 tcgatcgat caccacggat cgtccgcgttcc cgcgtcccttcc caccacatc caccatccgac 38760
 acagacaacc cccgcacacgc caacgcgtcc cgaatcaccc gtcgtcgatc cggaccattc 38820
 ggcgcgtca accatcgat cgcacccgttcc tgattcaccg cactcccccg caccacccgc 38880
 aaaacccgat gaccacgacg ttcaacccgttcc gacagccgttcc cagcagcaaa atcccccacg 38940
 ccctcgacca tgccgggttcc gtcggcgacc gacgcgtacg ctttgccaccg gccgtccggc 39000

gacagacccc gctgccgcga gaactccacg aacatgcccgggtggacat gaccgtcacg 39060
 cctccggcga gggcaagga ggactcaccg gtgcgcagtg actggcaggc gaggtgcagt 39120
 gccaccagcg acgacgagca cgccgtgtcg accgtcaccg cggggccctc gaagccgaag 39180
 gtgttaggcga cgctccggc caggatgtttc cccgcgttgc cggttccag gtagccggc 39240
 aggtcgtcgg ggaccgagag cagacgggtc gcgttagtcct gggacatgag gccggcgaag 39300
 acgcccgtcc ggctgccgcg caacgtggcg gggtcgtatgc cggccgcctc caacgcctcc 39360
 caggacacct ccagcatcaa ccgctgtgc ggatccatcg ccaacgcctc acgcccgtc 39420
 atcccgaaaa accccgcata gaactccgcgc gcaccctcca ggaaaccggc cggcgcgt 39480
 tacgacaaac ccggccggcc cggctccggta tcataaaaaaag cctccacgtc ccaaccccg 39540
 tcgaccggaa actccccccac cgcattccgc cccgacgcaa tcaactccca gaaatccctc 39600
 gccgacttca caccggggggg aaaacggcac gecatccca caattgcaat cggctctgc 39660
 tcgcccgtatt caatctgtgt aagtgcacgc cgcacattga ggagatggc agtaacgcgc 39720
 ttgagatagt cgccggagctt ttccctgtta gccatggacc ggtctctcg acaagagaaa 39780
 tcgaaatata aaaaacacgc atgggactct cacaggctag agcgcacgaga gcagcacaaa 39840
 taccctaga taccctagac ccctgatgct cgatgaatgc cgctatacgct agggggtatg 39900
 gcgccagaca tg 39912

<210> 4
 <211> 60
 <212> DNA
 <213> Streptomyces avermitilis

<400> 4
 ccatggaccg gtctcctcga caagagaaaat cgaaaattaa aaaacacgc tggactctc 60

<210> 5
 <211> 3274
 <212> DNA
 <213> Streptomyces avermitilis

<400> 5
 accggtaacc cggattttcca ttccgtgttg cagcacgcga cccactgcgc atccactcg 60
 tgaatttgttgg accccatcc gggcacggta tgctccagg aaggaactcc ttcccccctcg 120
 cgaacaccac ctcaaatcc cacgatcatc agttaatcat caaatgcgc gacccgtaca 180
 ctaccccgcc caccaggggca aattcataac actgaccatc acctctgtat ctgtatcaacc 240
 cagccgcac ggccgcgacc gctttgttc aagcaatcga aatcccccggc acacgcgtttc 300
 ttggaaaaag gagaataaag aacatcatgc agggatttc ctgtctgcac cccctctggc 360
 aaccagaaga actcacgcgc gtcgaccggg aaacacagtt cgcgcgcgtc cggtggccc 420
 ttaccgaatg cgccggccggc acggtaaacatc tgctcgtcgc cgaggccggc atgggctgt 480
 gaaagagtagt gttctgggc gaggcactgc acaccgcgc cgcctccggc ttccggcgtcc 540
 tgcgtccgc cggcttccc gcggaccacc ggcaacccct cggcgtaactg cagcaactgc 600
 tgaacgaccc cgcggccggc gacaccgcgc gcaccgcgtc cgcggccatg cgggtgcaac 660
 acgtccgcgg cgcctctgaa cgcctcgccg cggccgcggc gtcggcgatc ggcacatcgac 720
 acgtacagga cggggaccgc gaggcgtcgc actgtctgtat ggcgcctcacc cggccactccc 780
 ccacccctcgat gatccctgtgt ctgtgcaccgc ccctggcggt cagtcggcc gccgaccgg 840
 tactcgaaacg cgagctgtatc cgtcagaccgc ccttcgaacgc catcacgtc gactgcctgt 900
 ccctggacgg agtggccggg ctggctcgacc accgctgcgc gggccgcacg ggcggccggc 960
 cggccggacta ctggctgacc gtcaccgggg gcaaccggct gtcggcgatc ggcctgtcg 1020
 aagagcacag cgaggccgc gccccctcgat caccggccgc ggcggagccccc tccgcgtc 1080
 actcccccgc gcaggccgcgc cgcgcgcgc cggctgtcgat cggccgcgttcc taccagtccg 1140
 tactggctcgat cctgtcccgat acggagacgg cgcacggccgc gacggccgcgc gccctcgccg 1200
 tcctcgccgg gctgtccgcgc gccgaccctgc tcccccaact gtcggcgatc agtcccgatc 1260
 cggtaaccgg gggctgcgt ggcgtggagg cgacggggct gaccacccgc ggcctttcc 1320
 ggcacccggc ggcgcgtcgc acgcactggat cccgagccgc cgtgcccacc 1380
 tgcaccggccg agcggccggc ctgcagaccgc acgacggccgc ggcggccggc gacgtccgc 1440
 gccacccctcgat cggccggccgc gccctgggc ggtgtccgtc ctgcgtgacg 1500

ccgcccggca gtcgctggcg caggacgacg tggcgtcgcc ggtctcctgc ctggaactcg 1560
 cctacggggc ctgtgtccgg gaacgggaac gtccggagat caggatcagg ctcgcccgg 1620
 ctttcggcg caccaacatc gcggtggcg aagagcacct cgccgacactg gtcgcccacct 1680
 tgcgggaagg agaattgacc ggccatcaga cggcttact cgtccctctg ctcgtcaacc 1740
 acggccgcct cggcgaagcg cgggaggcgta tggaccggct caacgcccgc gacgacgcgc 1800
 gcggccctgtg cgccgacggc ggcttcccga tggccgctcc gtggccgtcg accgcacacc 1860
 tcgcccacg cccgcatccc gccgcgcgc gcgatcccg caccgcgcgc gatcccgcg 1920
 acaaggccgtt cctgccccgg cagtccggtg ccccgacgcc cccggccggag gacggccgtg 1980
 gccagcagcc gacagcggcc ttgtggggcc tgcccgaaaa cggcaccagc gaggccggccg 2040
 cacacgcgc ggaacacgtt ctgcggctt ccccgctac cgacagaccc ctcgtgtcc 2100
 tggtaaacgc cgtcggatc ctgcggcgca cgggcccggta cgacacccgc gacatctgg 2160
 gcccacccgtt cttccggcgag gccacccgtc gccgttgc ggcgcacccccc 2220
 tggcggtgcg ggccgaactc tcgctgtgcc tggccctgtc cggccacgc aaggagtgcg 2280
 cccagcgcgc actgacacacat gtaaccggggc acagccgcag cgttccgcg ggcggccgc 2340
 tggccctgcca ggtcctcgcc tgcacccgca tgggacgccta cgacgaagcc acgcaactgc 2400
 tcagccatcc ggttcccgag ggcgttgc acagtgtgta cggccctggg tacctgcggg 2460
 cccggggcca tttccacctg gccatgaacc gcctgcccgc cggccgtccgc gacttcctca 2520
 cccggggccg ggtggcgccg gatgtggggac tggaccatcc ggtgtctgtc ccctggcgta 2580
 cggacgcgcg ggaggcggtt ctccggctcg gggaaacgaa gagggccgac caactccctca 2640
 ccgaacagct cgtctccccc cacagccgc acccgtagt cccgcggcacc ggcgtgcqcc 2700
 tgcggggcca gaccggcgcc cccgggaac ggctccggct gctgagcgag ggggtcagt 2760
 acctccagag ctccggcgac cgcctggcgc tggcccgccg actggccgat ctcggccgc 2820
 cgtatcacag ccgaacacgg cccgtacccgg cgagccgcac ggtccggccg gctggcagc 2880
 tggccaagga gtgcggagcc caggccctgt ggcacagcat cctgcccagt cggggcacca 2940
 aggaccgggg gcccgaacgga agggcgccg cgaccgaggc cctgctgagc gagtcggaga 3000
 tgcgagtcgc gacactggcg gcggggcgca acaccaaccg tgagatcgcc ggcggctct 3060
 gcgtaaccgtt cagcacggc gAACAGATC TGACCGGGGT CTACCGAAA CTGAACATCA 3120
 cccggccgcag ggagctgccc acccgctctgc gacacctcgc ggaccaggcc aactgaccac 3180
 gggaggggggg gcttcccgcc cgacgtgtc tcgtcttccg cctcacgaca tggcgccgc 3240
 gatgcacagc ccccaactcg catccaccaa ctga 3274

<210> 6
 <211> 11041
 <212> DNA
 <213> Streptomyces avermitilis

<400> 6
 ctgcagccgg cccgcacccc caccggcgcc ccccgacgcc tcctccaaaa tcacatgcgc 60
 attcgtccca ctcaccccgaa acgcacacac ccccgacacgc cgcagccgac cttccacccc 120
 cggccactcc acctcatccg ccaacacacg aaccgaccca ctgcaccaat ccacatcgca 180
 cgacggctca tccacatgca acgtcccgccg caacacccccc gcccgaacgc ccatcaccat 240
 cttgatcaca cccggccacac cccgacacgc ctgcgcacatgc cgcacatgtc acttcaccga 300
 ccccaaccc accggcggtt caccggcccg ctgcccgtac gtggcgagca acgcctgcgc 360
 ctgcacatccgaa tcacccagcg tcgttccgtt cccgtgcccc tccacccat ccacatccgc 420
 cacagacacac cccgcacacgc ccaacgcctg cggaaatcacc cgctgctgcg acggaccatt 480
 cggccgcgtc aaccatccg acgcacccgtc ctgattcacc gcactccccc gcaccaccgc 540
 caaaacccga tgaccacgc gttcagccctc ggacagccgc tccacgcgca aaatcccccac 600
 gcccgtccgc atgcccgtgc cgtccggcgc cgcacgcgtac gccttgcacc ggcgtccgg 660
 cgacagaccc cgcgtccgcg agaactccac gaaatgccc ggggtggaca tgaccgtcac 720
 gcctccggcg agggcgaagg aggactcacc ggttgcgcgt gactggcagg cgaggtgcag 780
 tgccaccacgc gacgacgcgc acgcgttgc gaccgttacc gcggggccct cgaagccgaa 840
 ggtgttaggcg acgcgtccgg acaggatgtt tcccgcttgc cggttgcacc ggttagccgc 900
 cagggtgtcg gggaccgaga gcaacgtggc ggggttgcgtt cccgccttcc ccaacgcctc 960
 gacgcccgtc cggctggccgc gcaacgtggc ggggttgcgtt cccgccttcc ccaacgcctc 1020
 ccaggacacc tccacgcata accgctgtcg cggatccatc gccaacgcct cacgcggact 1080
 gatcccgaaa aaccccgcat cgaactccgc cgcacccctcc agggaaacccgc cccggccgcgt 1140
 atacgacgaa cccggccgc cccggctccgg atcatagaaa gcctccacgt cccaaaccccg 1200

gtcgaccgga aactcccca ccgcaccccc acccgacgca atcaactccc agaaatcctc 1260
 cgccgactcc acacccccc gaaaacggca cgccatcccc acaattgcaa tcggctcctg 1320
 ctcgccccat tcaatctgt gaagtcgacg ccgcacattg aggagatcgg cagtaacgcg 1380
 cttagatag tcgcggagct ttccctcggt agccatggac cggctctctc gacaagagaa 1440
 atcggaaatt aaaaaacacg catgggactc tcacaggcta gagcgacgag agcagcacaa 1500
 atacccctag ataccccaga cccctgtatgc tcgatgaatg ccgctatagc taggggtat 1560
 ggcgccagac atgaattcac agcgtttccgg cggccggctg gcgcctgtca caggtgcagg 1620
 cggtgccatc gggccggcgca ccgcctgcgc tctcgatcg gccggggcgc gaggtggtgt 1680
 cgtggacccg gacggcccg ggcgggggtg gagggccgac ctggcccgga cgcggggcgc 1740
 gcggccggcc tggcccgagg tggccgacgt gtccgacgga gggcgatgg agcggttcgc 1800
 cgagcgcgtc gcccggacgt acggggctgt ggacctgtc gtgaacaacg ccggcatcgg 1860
 catggccggg ctttttcgt acacgtccgt cgaggactgg cagcgacacc tggcgtaaa 1920
 cctctgggt gtcatatcg gttgcgcct catcgccgg cagatggcg agcgccggca 1980
 gggccggcac atcggtacgg tggcgccggc ggcggcggtc cagccgacgc gggcggtccc 2040
 cgcgtatgcc accagcaagg cggcggtgct gatgctgagc gagtgctgc ggcggagtt 2100
 cgccggagttc ggggtcgag tgagcgttgt gtgccccggc ttcgtccgtc cgtcggtcgc 2160
 gtcggcgatg catttcgccc gtgtgcggc gctggagcag gagcgctgc gggcgctgtt 2220
 cgccgggtcgc ggatgcagcg cggagaaggt ggccgccggc gtactcggtt cggcgccgc 2280
 cgactcggcc gtgggtaccc tgacggccgg aagcgccgtc tcacggctga ttagccgctt 2340
 cacggccacgc ctgcgcgcgg cggtgccggc gatggatccc cttcgtagg gctggccggg 2400
 atccccctct tgccttcgaa catcttcga cgatgggcag tgagagatgt cagatcattt 2460
 tctcttcatg agtgcgcgt tctggggca tgggtttccc agtctcgccg tggcgagga 2520
 gctcgtgcac cggggccacc acgtcacctt tggacggggc gcgaaatgg ccgatgcgg 2580
 gcgttccgtg ggcgtgatt tcctgcggta cgagtccgc ttcgagggtg tcgacatgta 2640
 cccgctgatg accgaggccg agccgaacgc catccccatg acgctgtacg acgagggcat 2700
 gtccatgtt cgttcgggtt aggagcacgt cggcaaggac gttccggacc tggtggccta 2760
 cgacatcgcc acctccctca acgtgggtcg tggctcgcc gcctccgtt gcaaggccggc 2820
 catgacggtc attccccgt tgcgtccaa cggggcgctt tccacgatgc agtcggattt 2880
 ggatccggat tccgctcagg tcagtgcgcg gccggccgcg ttctcgagc agatggagtt 2940
 gttccggctc gggcgctgg tgccgcgcct cggggagctg ctgcgttccc gggtatcac 3000
 ggaaccggtc gacgatttcc ttcccgacc ggaggactt aacctgggtgt gtctggccgc 3060
 cgcctccag taccgccggc acacccatcg cggcggttc gcctcgctg gaccatgtct 3120
 gggtaaggcg agggtctgg gcgagtgac accaccggc acggggcattt cagtgggtct 3180
 catctccctc gggaccgtgt tcaacccggca gctgtccctc ttccgcacgt tgcgtccggc 3240
 gttcaccgac gtccccgtgc acgtcgtat ctcgctcgcc aagggggtcg accccgatgt 3300
 gctcgcccg ctggccggca atgtcgaggt gacccgggtt gtcggccacc atgcgggtct 3360
 ggagcatgcc agggtctgg tcacgcacgg cggtaaccggc agtgtatgg aggcaactgca 3420
 cgcagggtgc cccgtgtcg tcatgcctt gtcgcgggac ggcgcaggta cccggccggc 3480
 gatecgccgag ctggggctgg gtcgtatgtt gcaaggccggag gaggtcacgg cgacgacgct 3540
 ggcggccac gtgtggaca tcacgcgtt tgacgcgtc accccgacagg tcaggcagat 3600
 gcagcggggc acgtcgagg cggccggcgc cctgcgggca gggacgaga ccgagcggtt 3660
 tctgcgcgg acgcggcgtc actgaccggc agtcgggca gggcggtgag tggctccac 3720
 agggttcggt tctccacgtt ccactgaacg gtctgtgcca gcccctccctc gaagggcacc 3780
 cggggcgctt aaccgagtc ggcggagatc ttgtctgtat ccagcgagta ggcggccgtc 3840
 tgcccccttc ggtcggtcac gggttcgacc atcgaccagt ccacgcccag caggtccagg 3900
 agccggccgg tgagctcacg gttggacagc tccgtcccgca ctccgtatgtt gtagatctcg 3960
 cccggccctgc cgcgttcggc gaccaggccg atgcccacggc agtggtcgtc cacgtgcagc 4020
 cagtcgccga cgttttcggc gtcgtccgtac aaggccaccc tgcgtccgtt cagcagatgg 4080
 gtgacgaacc gcccggatgat ttctcccggtt aactgggtgg gggcgtagtt gttcgagcat 4140
 cgggtgtatgatcactcggttag gccgtcgatcggc gggcgatggc accggggcggag caggtccggag 4200
 gagcccttgg acgcggatgat gggcgatggc ggtcccgatcggc gggcgccctc ggtccacgg 4260
 ccggagtcga tggagccgtt gacccgtccgtc gtcgagatgt acacgaagcg gttccacggc 4320
 gctcgccgtt cggccggccgatcggc gagggtgtga gtgcccggatc gatgggtcg tacgaactcg 4380
 gggcgccgtt ccacggaccgc gtcacgtgt gactccgcgc gcaagttggac caccatgtcg 4440
 gagccgttcca tcaggtccgc gaccaaggccg ccgtcgacgatc gttcccgatcggc gttccacggc 4500
 agggatgggc ttcccgaggatc cgggtcgatcggc ttctcccgatc gaccccgatc ggtcagttt 4560
 tcgagcacca cgcacccgtcc accggatgtacg gccggataacg cgcggatcgtc caccatgtcg 4620
 acgaaatggg aaccgatgaa accggccggccg cccgtcaccgc gtaggcgcatt cccggccctc 4680

tcaccgcggc ttccgcccga atactcatca gatactcgcc gtagccggag ccggccagtt 4740
 cgaccccgcg cagatagcag tcgtccgcgt cgatcagacc catccgaaag gcgatctcct 4800
 cgagacaggc gatccgtact ccctggcgct tctccaggac ctgcacatac tgcccggcgt 4860
 gcatcagcga gtcgtcgctc cccgcacatcgaa gccaggtgaa gccccggccc aggtccacca 4920
 gccgggccccg cccctcgccg aggttaggccc tggtagcgtc ggtgatctcc agctcgccgc 4980
 gggccgacga gcgatgccc cggggccacct cgatcacfctc gttgtcgta aggtacaggc 5040
 ctgtgatcgc caggttggac cggggggccgg tgggtttctc ctcgacaggac agcagcttc 5100
 cggaggcgctc gacctctccg actccgtacc gttcgggatc cgtcaccccg tattccgaaca 5160
 acacacagcc gtcgacatcg cgggtgtggc tgccgacgag gtgcgaaaag cccatgccc 5220
 ggaagatgtt gtccccaagg acaaggagaca cctgatcctg accgatgaaa tcggcggcga 5280
 tgaggaatgc ctccgcatt cctcccggtc gctgctcgcc ggcgttagtgc atgttcagcc 5340
 cgaggcgctc tccgtctccg agcagtctcc ggaattgttc gagatgatcg ggtgagggaaa 5400
 tcaccaggat gtctttatg cccgcgagca tcaacacggaa gacgggttag tagatcatgg 5460
 gtttgcgtta gacagggagc agctgcttgg aaaggggacg ggtcaacggg taaagccgag 5520
 agccggttcc ccccgcgagc acgattccct tcatgtcgga ctcccccgcag tcgacgttat 5580
 atatctcgc cgctctggcc acggtaacaa gtggcgaaaa acgcacccagg aattcgagcg 5640
 ccgctaggg gaaggcgctca agaagatagg ggcacccaga tggggcggtt ttccgtgtgc 5700
 cccggccggc cgaccggaat actgaagagc atgctgacga ctgggatgtg cgaccgaccg 5760
 ctggtcgtcg tactcgagc ctccggctat atcgggtcg cctgcggcgc ggaactcgcc 5820
 cggtgccgg tccgttgcg gctgggtggcc cggcgaccgg gcgtcggtcc gccggggcggc 5880
 gccgcggaga cccgagacgcg tacggccgac ctgacggcgg cgagcggaggt cgccctcgcc 5940
 gtgacggacg cccgacgttgt gatccacactg gtcgcgcgc tcacccaggg agcggcatgg 6000
 cggggcggcgg agagcgatcc ggtggccgag cgggtgaacg tcgggggtat gcacgacgtc 6060
 gtcgcggccc tgcgttccgg gccgcgcgc gggccgcggc cgggtgggtt gttcgccggg 6120
 tcggtctacc aggtgggccc cccgggtcg gtcgacggca gtgagccgga cgagcccg 6180
 acggcctatg cccgtcagaa actcgacgccgaa gaacggacgt tgaagtccgc cacggtcgag 6240
 ggtgtctgc ggggatctc gctgcggctg cccacccgtct acggcgcggg gccggggccc 6300
 caggcgaacg gcgtcgtgca ggcgtatggc ctccgggcgc tcgcccacgaa ggccctcacc 6360
 gtgtggaaacg gaagcgttgtt ggagcgtgac ctgggtcgatg tggaggatgt cgccgcaggcc 6420
 ttcgtgagct gcctggcgca cgcggatcgctc ctcggccggc ggcactggct gctcgccgc 6480
 ggtgtctcg tgaccgtccc gcacctttc ggtgcccattcg cccggccgt gtcgcggcc 6540
 accggggcgc cccgggtgcg cgtgaccggcgt gttggaccctc cggcgatggc gacggcggcgc 6600
 gacttccacg ggaccgttgt cgcactctcg gcttccgcg cggtcacccgg tggcggccgc 6660
 cggctgtcgc ttcaggaggg cctggaccac atgggtggcgg cttacgtgtt ggcgcgggtt 6720
 ggcggccggg cccgggcggt gacggcccgg atccgggtcg gccgtcacag cttctcgctg 6780
 aggccgcggc tgcgcggta ctccggcaac atgcccgcgtc gcagggcctg ctggagagtc 6840
 ggcgcgcgccc ggtcgccgtc ggagaggatc ggtggccgcg ccagggtgtt gccgaggggc 6900
 agggcgaggt ccggatcctc gggcgagagg gctgtttcg tctcggaac gtagccgctc 6960
 gacatcgatg acaccatcg cgtgtcgctc tccagcgcca cgaacgcgtg cccgaccccg 7020
 atcggcgatgt agacggaaacg gaagcgtctc tggtcgagga ggaccgagtc ccactgccc 7080
 aaagtcggtg agccgggtcg caggtcgacg acgaagtcca gggccgtcc cccggcgcag 7140
 tggacgtact tggctggcc ggggtgttc gcggtgaagt gcacccgcg gacgacgcgc 7200
 cggcgcgaga cgctctggca ggtctcgccg gtggggaaacc ggtgcccac ggccctcgctg 7260
 aggaccgggtt cctggtaggg ggtgacgaag agcccgccgt cgtcggggaa gaccgtcgcc 7320
 gtgaattcga cggcgccctc gacgacgagc ctccggaccg tgacaccggc ggcgggtggcc 7380
 cggggcgcggc cggggcgccggc gggccggctcg gcgaggactcc ggcgaggccg gccaagggtc 7440
 atcgctgcac tctctctgtc gtgcgggttg tcatacggtt agtcgtacgg gccgggttccg 7500
 gagtacacgc tcgacggcgc ggggtgttag cagggacagc aggggtcgccg cctgcacgtt 7560
 cacgtaacgg cctgaccgcgca gcagctgggtt cagctggccc ggggtgcacc agcggtaccc 7620
 cggggggggg tcgttgcggcg cctggcttc gtcggccctcg acgaacaggat agcgcgcctg 7680
 tgcgtgcaga aagcgaccgc cctcctccga gtggaccgcg cgttagcgga tgcgtgtcg 7740
 cgcggccctcc agcaccaggat cggagaagcg cggccctggcc ggtcccgta ggtggggcgta 7800
 gttgcgcggg gtgtacttggc cctggccgac ggttcgatc gtgtcgagga agccgcctc 7860
 gaccctgccc tgggcgagca ggtgcggatc gcccgcgtc cggccgggtca ggaaggcggt 7920
 gatgccgtgg ccgcacgggtt cgatcagggg ctgggtccag cggccgaccc cccgggttgg 7980
 ggcctcgaca cggaccgcga ccacacggaa gtaccggtcc gctgtgtggg cgtatggactc 8040
 cgcggccctg gtccagccgg ggtgcggcgc caggggcacg cggccggcgt gacggagtg 8100
 cggggagcggt tcggcgccgtt accaggagag cagttcgccg tgcgtgtcga gggccgcggg 8160

ctcgtcgaac ggggtggaa ggcagggcag gaccgtgcgt gcgtccatgt tcaccagg 8220
 gtcccggtgc atcagttcgc cgatctgccc cagtgtcagc cagcggaaat cgctgtccag 8280
 tggtagtgc tcgtcggtct ccaccacat gttcggttg aacttccgtt ggaaccaggc 8340
 tccgtgtcg gactggagga cgtcgaccac cacgggtggcg cgccggggct gtgtgaagta 8400
 ctcgagggtac ttacacggcgg cgccccctgt gaccttgggt tagttgtcgc gcgtggcctg 8460
 cacgggtggc gacagctgga ccaggttgat gttcgccggc tccatcttgg cctgcatcag 8520
 gaagtgcagg accccgtcga acttcttggc gaggatgccg agatgccg tctcgccgt 8580
 gtggatgtat ggctgtgcattccggaa ggctgttca cgcgcctcgga cgtgcagtc 8640
 ctccacggag aagaacccggc cgctcggtg ggcagattt cccgttccgg ggtgaaacga 8700
 ccaggcggtcc atcccggtt ggggatgtcg ctcgacccgg aaccgggtgg ccccgaccg 8760
 cccggtccac cagccgggtga acgcgtcgag gacgtccgg cgccgggtgc gcccacggc 8820
 gcgagccggg cgagggcacgc gggcaggcg gcgtgtgtcc ggcgggtgag cgggtgtgg 8880
 ctccgtgtgg tcggcatcg ctcgtacgt catgcacccc acgtcatgtat gatcaccgg 8940
 ggctcgccgc cggcagttt ggcagttttt gctgggtcga ggccgaacgc ctcgctcagc 9000
 gcccgtgtt ccccgccca tttgggtgg gtgagttcgat cgaaggcgag gatgtgtccc 9060
 ctggtcaggat gcggtgttat gacgtccacgc agttcgccgg tggggcggtt gagggtccagg 9120
 tcgaagtaggg ccagcgcgtat gacgtgtgc ggggttcccg ccaggattt gggcaccgtt 9180
 tcgcgtacgt cgccctggac cacgaaggaa cgctgggtgtt ggccgttaggg ttcttcgc 9240
 tcgtgcgcgc cgagcacctt cccgagggtgc tccacttcgc cgtccggcac ggcgaaccgc 9300
 ccagggaccgc cgctgggtgtt gacccgttcc gcctcggtcga tgcggggaa gccgggtgaac 9360
 gtgtcgaagc cgatgacgcg ggcagcgag ttgtacggctt catagatgtt ggcagcgcg 9420
 gtcagcggtt cgaggtgccc tccgtcaga acgcccactt ccatgtatgac gccggggact 9480
 tccggcagca tgccgtacag cgcgtccatg gagagcaggat cggcgagctg gttgcgcgc 9540
 atgttagacgg acaggttgcgat gatcaggat ttcggccggaa tcgggctgtc gacgaggagc 9600
 ttggtcagct gctcgccggc agcgcgttcc tgctcggtact cgtcggttcc gatccgggg 9660
 tcggtgaact cccgctcggtt catggaggcc tttctttca tgggtcggtt ccggggcgcc 9720
 cggacgtgccc ggtcgtaaccg ggcgtccggg cggcacgc gctgtcggtt caggacagcc 9780
 aggacgtcggtt ggccgatccg ccgcggccga ccggggggaa cagctctcc agggggccca 9840
 ggacgggttc gggcagccggg gtgcgcagggt cgtgcgttcc cccgtccacgc tgcgtgttccg 9900
 tgcgcggccc gatgaccgcg cccgtcacgc cggccgcga cagcacccag gccatgcgc 9960
 catggggccgg gtcgaggccg tggtcgcgc acacgttccgc gtacgcgcg atgggtgtc 10020
 ggtgggtctt caggccctcg acggcccccgc cctgtgcgcga ctggaccgcg gtgttctccc 10080
 gctgttgcg cagacaccgc cccgaggccgc cgcgtgcag tggcgaccag accaggacgc 10140
 cgacaccgtt ggcggacgcg gggggatgtt cttccagctt ggcgtgtccg gtcacgagg 10200
 ttagacgcgat ctgtcggtt ggcaggccca gggcggttgcg ccggccggcc gcttccttgg 10260
 cggaaaggat gtcggccat gcaagttgg agagacccgc gtagcgcacc ttggccctgcg 10320
 ttagacgcgat gtcggccat tggccacaccc cgtcccgaccc ggcgcggccg tgcgtgttgc 10380
 gcaacgttgcg cagtcgtatc cagtcgggtc gcaatcgccg cagcgaggcg tgcaggccg 10440
 ccacgatatt gcaatcggtt agtccgtat cgttggggcc gctgcccattt gatcgccga 10500
 ccttgggtgc cagaccacc tgcgtacgc gggcgccggc gtcggccacg caccgtccga 10560
 tgaccttcc ggttacccc ttgtggacgc gcaagccgtt ggttggcg gtgtcgaaca 10620
 ggggtatgcc ctgagccagg gctgtatcca tcaatcgccg cgcgttccggc tcctccaccc 10680
 gtccggccat gttgaccgtt ccgagccca gtcggctgtat cctcagccgg gtcctggcc 10740
 gttcggtgtt gaggggagca ctgtgttgc tgcgtgttgc gacgggtgcg ggctcgccg 10800
 tcgttaggcattt catcgatcgtt tgcacactcc ctcgtgcgtt agcggccggc gtcgagcag 10860
 gaccctgacc tgaggccca gaggctaccg gcaatcgatc gatacaggca gccgctcgat 10920
 ggtgggacac gggctggccgtt cggccggccat aggggtgtat ggggggttgcg cgggtggccg 10980
 cccgctgaca gcttcgttgcgat caccatgtt atccagttgtat tccactccga aaggcagagg 11040
 C 11041